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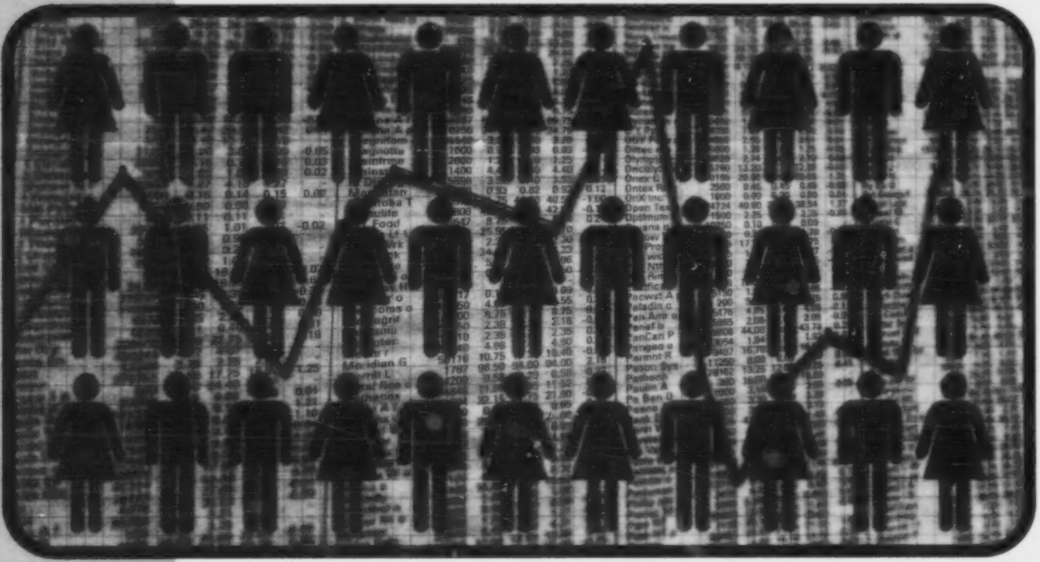

The Review of Economic Performance and Social Progress

The Longest Decade: Canada in the 1990s

Edited by **Keith Banting**
Andrew Sharpe
France St-Hilaire

CSLS

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Keith Banting
Andrew Sharpe
France St-Hilaire

Foreword

This inaugural issue of the Review of Economic Performance and Social Progress represents the outcome of a collaboration between our two organisations, the Institute for Research on Public Policy (IRPP) and the Centre for the Study of Living Standards (CSLS). This partnership has been fruitful and mutually beneficial. We have also greatly appreciated the opportunity to collaborate with the outstanding researchers who have contributed to the volume, a volume we believe both broadens and deepens the public policy debate on the linkages between economic performance and social progress.

Think tanks on the right of the political spectrum tend to focus on economic growth and efficiency issues while those on the left are oriented toward social justice and equity issues. A constructive and successful society needs to focus on both. We believe the papers in this volume present a balanced approach to both concerns.

How one frames a question influences the answer one obtains. The contributors to this volume not only provide valuable insights into the Canadian economy and society, but in a number of instances frame issues and challenges in a new and innovative manner.

It is our profound hope that the papers in the volume and the debate they engender will assist those in the political, public service, academic and media communities in shaping, evaluating and choosing the best possible policy mix for Canada.

Hugh Segal, President, IRPP
Andrew Sharpe, Executive Director, CSLS
May 17, 2001

The Longest Decade: Introduction and Overview

Keith Banting
Andrew Sharpe
France St-Hilaire

The 1990s was a long decade in Canada. It was a period of transitions and turbulence, of seismic shifts in the Canadian economy and dramatic changes in many longstanding public programs. It was also a decade in which Canadians' attitudes toward their economic future and their expectations of government seemed to evolve in new and uncharted directions.

The 1990s were years of economic contrasts. The decade began with a deep, prolonged recession marked by the highest average rate of unemployment since the 1930s, yet it ended with the return of strong economic growth. Underneath the valleys and peaks of a particularly intense economic cycle, however, the basic structure of the Canadian economy was being reshaped in powerful ways by forces felt around the world, such as trade liberalization, globalization and technological change. Many of these structural trends had roots in earlier years or decades, but their full impact became clear in the 1990s, and Canadians had to embrace new ways of thinking about their economic and social future.

The 1990s also saw major changes in public policy. Most importantly, the basic strategy guiding macroeconomic policy shifted dramatically. Monetary authorities adopted price stability as their primary objective, producing restrictive inflation targets and high interest rates compared to many other countries. Fiscal policy was also tightened sharply, as federal and provincial governments moved aggressively to eliminate longstanding deficits, mainly through deep cuts to public expenditures. In the case of the federal government, its program expenditures as a proportion of GDP fell to levels not seen since the late 1940s. In addition, important components of social policy were restructured. Although the origins of many these changes can be traced to earlier years, the pace of change accelerated over the 1990s, reshaping a range of social programs inherited from the post-war generation, especially those with direct implications for the labour market such as unemployment insurance, social assistance and child benefit programs. The Canadian social policy infrastructure at the end of the decade was markedly different from that of 1990.

As with all eras of rapid and often wrenching change, economic transitions and policy changes produced considerable turmoil in the lives of many Canadians. Indeed, for policy analysts the decade of the 1990s represents a laboratory for assessing the consequences of economic and policy changes for the structure of Canadian society. Admittedly, the changes of the 1990s and their attendant impacts are still working their way through our economic and social systems, and in a real sense the story of the 1990s is still being written. Nevertheless, a new decade and a new century provide a good vantage point from which to look back and attempt an initial assessment of one of the longest decades in recent Canadian history. This book is devoted to the task of analysing the impact of economic performance on patterns of social well-being in Canada during the 1990s.

THE TOOLS OF ANALYSIS: CONCEPTS AND LINKAGES

Before plunging into all of the controversial debates about the record of the 1990s, it is important that we establish as much clarity as possible concerning the core concepts at the heart of the study and the linkages between them.

The term "economic performance" poses the fewest difficulties. As used in this volume, the term is defined relatively narrowly as trends in key macroeconomic variables such as output growth, productivity, employment, unemployment and inflation. Economic performance can be measured in absolute terms or, more appropriately but with much greater difficulty, relative to potential. For example, an absolute slowdown in the long-term rate of economic growth that reflects slower population growth, and therefore lower potential growth in the labour force, does not really represent a deterioration of economic performance as such. However, a slowdown in actual output growth relative to potential labour-force and output growth does. Operationalizing the idea of potential growth can be complex, because gauging trend productivity growth is notoriously tricky. But the basic concepts are clear.

Good economic performance is thus defined as a situation in which output, employment and productivity grow at their potential and the unemployment rate and the rate of inflation are low. Poor economic performance is defined as a situation in which output, employment and productivity growth are below potential and unemployment and inflation are unacceptably high.

In contrast with the relative clarity of the meaning of economic performance, "social progress" is a much broader idea. Social progress can be manifested by improvements in a wide range of measures, including the incomes of families and individuals, the sense of economic security enjoyed by workers, the levels of poverty and social exclusion, the extent of inequality in life chances, the vibrancy of cultural life, the integrity of distinctive communities, the strength of social cohesion and the sustainability of our environmental heritage. Such a complex and multi-faceted phenomenon is best thought of as an overarching societal goal rather than as an analytical concept, and contributors to this volume tend to focus on specific dimensions of our collective social experience.

Any assessment of social progress is also hindered by the fact that it must move beyond aggregate measures. Overall indicators of the average level of social well-being always mask variations in the experiences of different individual and groups, and this is especially important during periods of historic transition. Economic and social change on a major scale always produces winners and losers, groups who benefit from the new order and groups whose economic and social prospects are eroded by the same forces. The history of wars, it is often observed, is written by the winning side. The history of social progress needs to be more balanced.

As well as being complex, "social progress" is inevitably a contested idea, because different people have very different conceptions of what constitutes the "good" society. Even if members of a society agree on whether specific indicators tap dimensions of social progress, they will differ on the relative importance to be attached to the various indicators and hence on whether social progress, in the aggregate, is advancing or not. For certain indicators, there may even be disagreement about which direction of change represents social progress, reflecting the ideological or world view of the observer. For example, some may see a rising proportion of students in private schools as a negative indicator because they believe such a trend threatens the development of an inclusive society. Others may view this as a positive development because it means that individuals have more choice in educational options for their children. In the end, therefore, it is unlikely that we will find consensus on a common measure of social progress or well-being. Exploring the relationships between economic performance and social progress remains a compelling task, but the judgements rendered in this volume are best seen as contributions to an open and pluralistic debate on this critical dimension of Canada's future.

Not surprisingly, perhaps, the linkages between these two phenomena — economic performance and social progress — are many and varied. In some cases, the links are direct and immediate; changes in the average income of Canadians and the level of unemployment are tightly tied to the performance of the economy and productivity trends in particular. In other cases, the links are more indirect and conditioned by other factors. For example, there is a significant lag between the performance of the "official" economy, as measured by such indicators as GDP growth and average income, and Canadians' own sense of economic security, as measured by opinion polls. Moreover, some commentators have wondered whether the link between economic growth and particular components of social well-being, like poverty for example, may have weakened over time such that the return of economic growth late in the decade did not lead to a sharp decline in poverty rates. In yet other areas, the link between changes in economic performance and certain dimensions of social progress may be especially weak. For example, there may be little or no link between economic performance and indicators of social cohesion or social capital such as membership in associations and groups. Cultural or social factors are likely to exercise much greater influence in shaping such aspects of our collective social experiences. Finally, the link between economic performance and social progress may also be negative. For example, economic growth may have a deleterious effect on certain environmental indicators such as greenhouse gas emissions or quality of life indicators such as the time spent commuting.

The role of public policy highlights the importance of the indirect linkages between economic performance and social lives of citizens. In part, the impact of economic performance on social well-being flows through public policy. To take the most obvious example, poor economic performance in the 1990s reduced government revenues and increased deficits, significantly contributing to the pressure on governments to take dramatic action on fiscal policy. The major cuts in unemployment benefits and to a lesser extent in social assistance triggered by these pressures had a palpable impact on the lives of many Canadians. Yet no simple economic determinism drove the reaction of governments. As the chapters in this volume make clear, governments were faced with a variety of options, and, inevitably, fundamentally political judgements had to be made about how to proceed. Similarly, an analysis of the evolution of social programs makes clear that a wide range of social, demographic and political factors also came into play in redefining social Canada. The performance of the economy is a powerful factor conditioning public policies, but the impact is indirect and mediated by political and social pressures.

Tracing the linkages between the economy and social well-being is also a challenge because it is *long-term* economic performance that is likely to have the most pervasive impact. The short-to-medium-term economic record, such as that of the 1990s, can have many important consequences, as we will see in greater detail in a moment. But the most significant consequences of the performance of the economy take generations to unfold. One need not adopt the extreme caution of the Chinese leader who opined that it was still too early to assess the impact of the French Revolution on the course of human history. But the consequences of economic trends do need to be measured in generations as well as decades. Modern research on the importance of early childhood development, for example, suggests that changes in the cultural richness of the family and community environment in which young children are nurtured can have long-term effects on their development as adults. The full consequences of the economic turbulence of the 1990s will therefore continue to work their way through our social and economic systems for a long time. In addition, long-term economic trends are critical because they shape and change social norms and public expectations of the future. The sustained economic growth of the post-war decades certainly contributed to the underlying optimism of the era and people's faith in the capacity of governments to act as instruments of collective choice and social progress. The more troubled economic record of the last decades of the 20th century undoubtedly played a key role in eroding that confidence.

Finally, in comparison with the short- and long-term links running from economic performance to social progress, the links running from social well-being to economic performance are less obvious and not as well documented. Nevertheless, these links are likely to be important for many economic variables. To take the most obvious example, in a knowledge-based economy, social and cultural factors that influence the desire and capacity of families to invest in their children's education and development have potentially powerful long-term consequences for productivity growth and the vibrancy of a society's economic future; changes in family structures and other social patterns that influence the capacity of families and communities to make such investments do matter. Similarly, many analysts have argued that the strength of social networks and levels of social and political trust represent a form of social capital with important implications for economic activity. For hese and other reasons, there appears to be ome evidence that greater social equality can oost long-term productivity and growth. In articular, inequality can have negative impliations for the accumulation of human capial. Those at or near the bottom of the income listribution in an unequal society may have nuch more financial difficulty providing pportunities for post-secondary education for heir children than a comparable group in a nore equal society.[1]

The links between economic performnce and social progress are thus multiple and complex, and tracking the relationships in a comprehensive way is a challenging analytical task. Nevertheless, it is possible to make at least provisional judgements about the core dynamics at work. What follows is a broad assessment of these patterns as manifested in the economic and social record of the 1990s.

ECONOMIC PERFORMANCE AND SOCIAL PROGRESS IN THE 1990s: THE BROAD PATTERNS

There is wide agreement that Canada's economic performance in the 1990s was, on average, poor, particularly relative to earlier decades. Growth in total output, employment and output per capita were considerably slower than in earlier periods. This slowdown reflected a gap between actual and potential performance, but not a drop in potential. The tragedy of the decade was the unemployment rate, which reached levels unseen in half a century. The only key economic variable that produced positive results (as traditionally defined) was inflation, which was very low. As noted at the outset, economic performance varied greatly within the decade. The economy went into a deep and protracted recession, with declining or weak output and employment growth along with rising or high unemployment, in the seven-year period from the 1989 cyclical peak to 1996. This was followed by robust output and employment growth and falling unemployment in the four-year period from 1996 to 2000. However, measures of the average performance of the economy are influenced more by the first period than by the second. Overall, the 1990s were a tough decade for Canada.

Following a trend started in the 1980s, the policy climate in Canada in the 1990s became more market-oriented and less reliant on state intervention, a development common to most if not all OECD countries. Macroeconomic policy was dominated by the themes of price stability and deficit elimination. The quest for liberalization drove policy developments in the trade and investment area, predominately the Free Trade Agreement (FTA) in 1989 and the North American Free Trade Agreement (NAFTA) in 1994. As noted earlier, program spending as a share of GDP was drastically cut in the mid-1990s and continued to fall in the late 1990s even though surpluses emerged. Labour market policy saw a shift in emphasis from passive or income-support policies (Unemployment/ Employment Insurance and welfare) toward more active policies fostering the integration of the jobless into the workforce. The trend away from universality in income security programs accelerated in the 1990s as income transfers were increasingly targeted to the poor and middle-income groups. Governments continued the privatization and deregulation trend started in the 1980s. Unlike the case for earlier decades, it is difficult to point to any major program initiatives by federal or provincial governments (partial exceptions may be child benefits, the Millennium Fund and spending increases in programs for Aboriginals).

What, then, of social progress? The aggregate measures tell one story. The average incomes of Canadians, however measured, eroded during the 1990s. For example, real personal disposable income per capita peaked in 1989, declined steadily through the first half of the decade and had not yet fully recovered by the year 2000 (Sharpe 2001). The decade also saw a growing gap in the standard of living between Canada and the United States, where productivity growth was considerably stronger throughout much of the decade. Aggregate measures of economic security capture another dimension of what was a tough decade for Canadians. As we shall see, the overall level of economic security enjoyed by Canadians declined during the 1990s, driven by increases in the risk of unemployment, the risk of financial insecurity due to illness and the risk of single-parent poverty.

Income inequality also increased in Canada in the 1990s. Turbulence and change in the economy contributed to greater polarization in labour-market outcomes. Based on trends in the Gini coefficient, a common measure of income distribution, inequality of market income for economic families (of two or more) rose 10.4 percent from 1989 to 1998, the most recent year for which data are available (Statistics Canada 2000). Moreover, the traditional role of the State in offsetting growing inequalities in market income diminished as the decade proceeded. Overall, the Gini coefficient for after-tax income rose somewhat less than that for market income (7.9 percent). In the first half of the decade, the tax and transfer system (particularly the latter) did work to offset the rise of market income inequality and keep after-tax income inequality relatively stable. But after 1995 this offsetting effect was weakened as cuts to social programs (the 1995 reductions in social assistance benefits in Ontario and the 1996 reform to Employment Insurance stand out as the most important) significantly weakened parts of the social safety net.

These economic and social policy trends inevitably had implications for poverty in terms of incidence, depth and persistence. There is no official measure of poverty in Canada. However, Statistics Canada does produce estimates of the proportion of the population living below what it calls low-income cut-offs (LICOs), and a number of non-governmental organizations refer to these estimates as the poverty rates. By this measure, the incidence of poverty rose in the 1990s. The proportion of Canadian economic families living below Statistics Canada's LICOs increased from 7.7 percent in 1989 to a peak of 10.2 percent in 1993, and had fallen to only 9.1 percent by 1998, the most recent year for which data are available (Statistics Canada 2000). Moreover, the average income gap, defined as the gap between the LICO and the average income of a family living below the LICO, rose 12.0 percent, from $5,928 to $6,638 ($1998), between 1989 and 1998.

Probing beneath these aggregate trends reveals a more complex pattern of winners and losers in the 1990s. Some groups did very well in the decade while others did quite poorly. As a general rule, persons with post-secondary education, older workers, women and workers in industries with expanding exports benefited from the changes in the economic environment, while the poorly educated, younger workers, men and workers in industries with expanding imports suffered real setbacks. Although these divergent outcomes in part reflect the relative degree of preparedness of these groups to adapt to the turbulent changes that beset the 1990s, the causes of some of these labour market trends are not yet fully understood.

Overall, the 1990s was a tough decade in social as well as economic terms. Canada seemed to be headed toward a more unequal society. However, some observers argue that the overall level of inequality in Canada is not the main concern as long as Canadians maintain a strong commitment to equality of opportunity. Historically, Canada has been characterized by a relatively high degree of intergenerational mobility, ranking alongside the most mobile countries such as Sweden and Finland. This pattern of increased intergenerational mobility over past decades was undoubtedly underpinned to a significant degree by the dramatic postwar expansion of educational systems, especially post-secondary education, and the strong public financing that drove that expansion. We still do not know the extent to which the policy changes of the 1990s, which increasingly shifted the costs of post-secondary education from public to private shoulders, changed that pattern and began to reduce the life chances of children from less affluent families. However, the early warning signs are not encouraging (Bouchard and Zao 2000). These signals simply reinforce the conclusion that the legacy of the adjustments and turbulence of Canada's longest decade will continue to unfold for years to come, and that the interim report contained in the pages of this volume will need to be updated on a continuing basis.

DETAILED VIEWS: THE CHAPTERS IN THIS VOLUME

The chapters in this volume, written by leading experts in the field, provide more detailed views of specific dimensions of the economic and social developments of the 1990s. The chapters are organized into four sections dealing with basic concepts, the public view of economic and social trends, changes in key public policies, and the outcomes in terms of the economic, social and environmental record of the 1990s. This section provides a brief summary of each chapter.

Concepts, Measurement and Linkages

The first chapter in this section, by Lars Osberg of Dalhousie University, discusses the concept of social progress and reviews a number of measures of social progress. The second chapter, by John Helliwell of the University of British Columbia, examines the linkages between social capital and the economy and well-being.

Lars Osberg was given the daunting task of examining the conceptual issues involved in defining and measuring social progress as well as reviewing the indicators currently available. As the author points out in his introduction, while much was made of the fact that Canada yet again earned first place in the United Nations' Human Development Index last year, other indices have produced less stellar results. He cites, for example, our 31st-place ranking based on the Weighted Index of Social Progress (WISP). Osberg's point is that there exists a wide range of similar indices, and each is based on a different set of criteria reflecting its own underlying choice and ranking of goals and priorities. Thus to agree on a measure of social progress presumes some prior conception of "good" outcomes and some way of knowing whether society is progressing overall in that direction.

Modern pluralist societies, however, have no common benchmark for defining the "good" society. Therefore, Osberg argues, social progress in a liberal society must be measured in the "enabling" sense that a society progresses when it enables more of its citizens to achieve the kind of life they personally value. Moreover, he insists on the need to draw a distinction between *needs* and *wants* and to think of progress in terms of "first meeting needs and then satisfying wants." His central argument is that if individuals are to choose freely what they want, their basic human rights need to be met. Canadian society has already committed itself to a definition of such rights in signing and ratifying a series of international covenants such as the United Nations Universal Declaration of Human Rights (1948) and the International Covenant on Economic, Social and Cultural Rights (1966). One measure of social progress in Canada would therefore be the percentage of Canadians who actually now enjoy these basic human rights. Using the right to housing as an example, Osberg also emphasises the fact that human rights covenants explicitly recognize the interdependence of social, economic, legal and political rights. The chapter goes on to discuss some of the empirical difficulties involved in constructing a measure of the attainment of social and economic rights, and it reviews several quantitative indices of social progress through the prism of human rights. The author concludes by highlighting the problems associated with data based on aggregate measures (e.g., population means or totals), which cannot reveal the particular circumstances of minorities. He also warns of the dangers of excessive complexity in data processing, which can at times obscure the link to human rights.

In the second chapter in this section, John Helliwell provides an up-to-date and comprehensive survey of the literature on the impact of social capital on both the economy and well-being. He begins by defining social capital as the networks and norms that facilitate cooperative activities within groups (bonding social capital) and between groups (bridging social capital). Researchers have found that high levels of interpersonal trust make many aspects of life more enjoyable and more productive by reducing the costs of dealing with risk and uncertainty. He points out that the direct linkages running from social capital to well-being are better documented than indirect linkages running from social capital to better economic performance and then to greater well-being. He also notes that it is important to disentangle what social capital is from what it does. Trust and the effectiveness of institutions may be better thought of as consequences of social capital than as part of social capital narrowly defined.

Helliwell surveys a number of studies that show that social capital actually saves lives. The denser the social network to which one belongs, the better the health outcomes, with the causation running from the former to the latter. Education levels have been found to be the most consistent factor in explaining differences in connectedness and trust, which, according to Helliwell, is a powerful result that broadens the total returns to investment in education. The author also surveys the literature on subjective well-being, pointing out that unemployment lowers subjective well-being by more than the usual measure of economic cost and certainly more than inflation. This implies that estimates of the trade-off between inflation and unemployment should attach substantially more weight to unemployment than that implied by the "misery index" which treats as equivalent a one-percentage point increase in the rate of inflation and a one-percentage point increase in the unemployment rate.[2]

A key issue in the debate on well-being is whether it is absolute or relative values for income, education and social capital that influence happiness or well-being. According to Helliwell, the literature concludes that the happiness effect of higher income is based on relative rather than absolute income. In contrast, it is absolute levels of education and social capital that influence well-being. He argues that one interpretation of these results is that education and social capital have positive externalities while income has negative externalities. That is to say, the overall population gains from contact with the more educated and civic-minded. In contrast, when others have higher income it exposes the inferiority of one's own income and reduces subjective well-being.

Public Views of Economic Performance and Social Progress

The second section of the volume turns to the public's view of the experience of the 1990s. Frank Graves, of Ekos Research Associates, examines the relationship between what he describes as the "official economy," as portrayed by conventional measures of economic performance, and public perceptions of the state of the economy. He also considers the public's understanding of the relationship between economic and social well-being, and the linkages between the public's perception of economic performance and their attitudes toward the redistributive role of the State and its broader role as an instrument of social progress. The analysis in this chapter is based on data from quantitative surveys and evidence from qualitative focus groups conducted over the past decade.

One of Graves' main arguments is that although there is a strong relationship between the perceived and official economy, the relationship is lagged and imperfect. As the author points out, this was particularly the case in the mid-1990s when the economy was perceived not only as considerably more turbulent than it was, but also as failing to recover at a time when the official data on economic growth indicated a turnaround. While public perceptions are highly segmented on the basis of region and socio-economic status, Graves also provides a number of other explanations for the imperfect nature of the relationship. For instance, he finds that people's perceptions about the state of the Canadian economy are very much based on their personal experience, which does not necessarily correspond with macroeconomic indicators. In addition, the experience of the mid-1990s clearly shows that once feelings of economic insecurity and anxiety toward the future take hold, they are more difficult to reverse than feelings of confidence. Indeed, it was only after a sustained period of strong performance in the Canadian economy and solid evidence of improvement in the state of public finances that indices of public insecurity and confidence levels moved in the expected direction.

By the end of the decade, not only had Canadians finally caught up with the data, but they had also changed their outlook on the economy. In particular, Graves detects a significant shift in attitudes on the part of Canadians toward globalization, technology and trade liberalization, and greater acceptance of the changes these forces entail. Yet at the same time they are increasingly concerned by what they perceive as rising poverty levels and growing inequality.

According to the author, Canadians understand and explicitly rank social and economic well-being considerations. Most people see "social well-being," which they equate with the notion of overall quality of life, as the ultimate goal. Graves also reports a growing tendency to explicitly link economic and social well-being and a desire to find ways to reconcile the two. Based on these observations, it is not surprising to find that public expectations and attitudes toward the role of government have also undergone important adjustments. Graves argues that economic performance clearly influences attitudes toward redistribution but that the linkage is different at the individual and aggregate/macro levels. At the individual level, those with high incomes will tend to place less emphasis on redistribution. At the collective level, however, Canadians have shown rising support for "conditional government activism" to address issues of social well-being as the economy has strengthened and perceptions of "needs" in specific policy areas such as health care have emerged. Looking at public opinion trends on the role of government and its priorities, Graves foresees the emergence of what he calls a new "humanomic" approach that is "redefining the relationship between economic and social policy as components of an overall plan to increase opportunity and reduce economic risk."

Public Policy, Economic Performance and Social Progress

The next set of chapters explores the impact of changes in public policy on economic performance and social well-being during the 1990s. The editors identified three policy areas as particularly important in shaping social progress in the 1990s: macroeconomic policy, trade policy and social policy. We invited individuals who were either players in these policy decisions or were persons deeply engaged in the attendant public debate to contribute chapters to this section. Four chapters examine the broad patterns of macroeconomic policy, while two others are devoted to trade policy and social policy, with particular reference to income security.

Macroeconomic policy. Monetary and fiscal policy were at the heart of the public policy debate in this country in the 1990s. Indeed, policy decisions in these areas affecting the state of the economy and the allocation of government resources had a profound impact on all aspects of Canadian society and provoked intense controversy. The four chapters on this general topic, two on monetary policy and two on fiscal policy, provide quite different perspectives from authors who are veterans of macroeconomic policy debates. Two are contributed by senior economic policy-makers and two by well-known critics of macroeconomic policy.

In the first chapter on monetary policy, Paul Jenkins and Brian O'Reilly of the Bank of Canada survey monetary policy developments in the 1990s, focusing on links between monetary policy and the economic well-being of Canadians. In the second, Pierre Fortin of the Université du Québec à Montréal provides a critique of the conduct of Canadian monetary policy in the 1990s, a critique that he developed throughout the decade. In the first chapter on fiscal policy, Don Drummond, who was until recently a senior official in the federal Department of Finance with responsibility for budget coordination, gives his perspective on fiscal developments in the 1990s. This is followed by a chapter by Jim Stanford of the Canadian Auto Workers (CAW), who has a different take on this topic.

Macroeconomic trends and policy developments in the 1990s are well known and the basic facts are not in dispute. In the late 1980s, under the leadership of John Crow, the Bank of Canada adopted price stability as its primary objective. This policy was formalized in February 1991 with the announcement of a Bank of Canada-Department of Finance agreement on inflation targets. With the tightening of labour markets in the late 1980s and early 1990s, a restrictive monetary policy was adopted to dampen incipient inflationary pressures. Short-term interest rates surged and at one point were 4 percentage points above comparable rates in the United States. Inflation was duly subdued, but economic growth slumped and failed to revive. From 1989 to 1993, real GDP growth averaged 0.4 percent per year; it was by far the weakest four-year period of economic growth since the Great Depression.

The stagnant economy and high interest rates had very negative effects on government fiscal balances. Governments eventually reacted to their burgeoning deficits by cutting program spending and to a lesser degree raising taxes. According to OECD measures, Canada pursued the most restrictive fiscal policies among all OECD countries in the mid-1990s. This action in turn reduced growth and the economy continued to perform well below potential. Finally, starting in 1997 the worst of the government cuts had been absorbed, interest rates declined and the American economy went into high gear. Canada now entered a period of rapid growth that reversed much of the decline experienced in the first half of the decade. The unemployment rate fell dramatically, the gap between actual and potential growth was reduced if not eliminated, and budget surpluses emerged.

The key issues in the debate on macroeconomic policy are the following:

- To what degree was the recession of the early 1990s exclusively due to monetary policy as opposed to other factors such as restructuring of the economy?
- Did the federal government overreact to the fiscal situation and pursue an unnecessarily harsh fiscal policy to the detriment of the economic well-being of Canadians?
- To what degree was the economic boom starting in 1997 a direct result of the monetary and fiscal policies pursued in the first half of the decade, with low inflation and falling deficits essential preconditions to interest rate reductions, and enhanced business and consumer confidence?

The four chapters in the section offer different answers to these questions. In reference to the first question, the Bank of Canada economists do admit that tight monetary policy in the early 1990s hurt growth in the short term, but they argue that such action was necessary to ratchet down entrenched inflationary expectations. Moreover, they argue that stagnation in the early part of the decade was not simply the result of monetary policy, but also reflected a weak US economy and structural problems in the Canadian economy. Pierre Fortin offers a very different view. While not denying that the US economic slowdown in the early 1990s reduced growth in Canada, he lays the blame for the inferior economic performance of the Canadian economy relative to the US economy squarely on the Bank of Canada, and dismisses structural explanations of the recession as lacking an empirical basis.

In response to the second question, Don Drummond makes the case that, given the context at the time, the fiscal policy implemented in the mid-1990s was justified. With large deficits, there was little room for the Bank of Canada to reduce interest rates to stimulate the economy and generate revenues. It was imperative that the deficit be eliminated. Tax rates were already high, so the government had no choice but to cut program spending. Drummond recognizes that the cuts caused hardship for some Canadians, but feels that the suffering was relatively limited and temporary in nature. Jim Stanford agrees with Drummond that measures were needed to eliminate the deficit, but he argues that the federal government's spending cuts were larger than necessary and caused real pain in many areas of Canadian life. He shows that a strategy in which program spending is frozen in nominal terms, but not cut, would have produced more growth and employment and still yielded almost the same deficit by 1999 (although with slightly higher debt levels) as the program-cutting path actually followed.

Probably the most controversial of the three questions is the third one. The Bank of Canada makes the case that although establishing a low-inflation environment generated short-term pain in the early 1990s, it is now paying off with long-term gain. According to the Bank, price stability has enhanced economic well-being. Low inflation has reduced inflation uncertainty, a boon to investment. Don Drummond argues that the elimination of the deficit has reduced risk premiums and allowed the Bank of Canada to bring interest rates down.

Both Fortin and Stanford give less credit to monetary and fiscal policies adopted in the first half of the decade for the economic renaissance of the second half. They note that over the decade economic growth was very weak and that four good years cannot offset the negative effect of six poor years. Both authors agree that the conduct of monetary policy has become more conducive to growth in recent years and point to the willingness of the Bank of Canada to allow the dollar to fall as a positive development. But they both argue that the virtues of price stability have been oversold and that a less rigid approach to monetary policy, such as the strategy practised so successfully by Alan Greenspan, would be more productive.

Trade policy. Daniel Schwanen of the Institute for Research on Public Policy addresses the impact of the major trade liberalization efforts undertaken by Canada and its trading partners beginning with the Canada-US Free Trade Agreement in 1989. The author focuses in particular on the question of whether liberalized trade could have been a factor behind the emergence of greater inequalities in Canada in the 1990s. He begins by reviewing some theoretical links between trade and inequality, and notes that trade can affect the relative position of unskilled workers not only through "factor price equalization" — for example, competition of unskilled Canadian workers with lower-paid workers in other countries — but also because trade fosters scale and innovation.

These last two phenomena, in turn, tend to favour skilled over less-skilled workers.

The author divides Canadian manufacturing industries into five groups according to their sensitivity to trade liberalization in the 1990s and to the direction taken by exports and imports following the opening of trade. He finds that workers in export-oriented manufacturing industries did markedly better than others during the period in terms of employment and earnings, while workers in industries characterized by high levels of imports, who were less educated and already earning less on average before the FTA, did poorly. Schwanen notes that trade liberalization is more likely to have affected services indirectly than directly, through the inputs that services provide to manufacturing. Accordingly, he divides service industries into those that are highly sensitive to two-way trade and those that are not. He finds that employees in trade-sensitive service industries, who were already earning higher wages and were more highly educated than the Canadian average, experienced a greater rise in their employment and earnings relative to workers in other service industries. At the same time, workers in the least trade-sensitive service industries (many in the public sector) who were also highly educated, and who comprised a high proportion of youth, experienced relatively poor outcomes.

Schwanen concludes from this exercise that more open trade may have contributed to inequalities in Canada by favouring certain groups already doing relatively well while being detrimental to many less-skilled and lesser-paid groups. Furthermore, he notes that liberalized trade may help explain the fact that increases in inequality have also been observed *within* groups of workers with equivalent education and experience. This is because groups of industries employing workers with similar characteristics nevertheless performed differently, depending on their exposure to trade liberalization.

Social policy. Perhaps one of the most highly charged public debate in this country over the past decade has been that concerning the dismantling of the "universalist" model of the "welfare state" adopted in the post-war years. In his chapter, Ken Battle of the Caledon Institute of Social Policy is critical of the ongoing public discourse on this issue, which he considers lacking in both substance and subtlety. He argues that this has led to a polarization of views and produced persistent mythologies, which have insulated governments from effective criticism and inhibited an open and informed public debate on the present and future course of social policy. As one of the country's leading experts on social policy, Battle is well placed to provide a comprehensive analysis of the major developments in income security policy in Canada since the mid-1980s. He documents the changes in approaches and instruments, identifies the forces propelling these changes, and assesses the outcomes relative to the broad principles and objectives of social policy.

The first section of the chapter charts the trends in major income security expenditures since 1980. On the whole, income security expenditures in the 1990s show a relatively small downward trend in both absolute and relative terms, although provincial spending fell more sharply (13.2 percent in real terms between 1993-94 and 1998-99) than federal spending (3.8 percent over the same period). But underlying this modest trend are important differences in individual programs. While income support programs for politically favoured groups such as the elderly continued to grow, unemployment insurance and social assistance expenditures moved up and down erratically as a result of both economic turmoil and changes in benefits and eligibility requirements imposed by cash-strapped governments.

According to Battle, the pressures to reform Canada's social programs stem from a variety of profound changes that extend well beyond the economic realm. He argues that the shift away from a universalist model of the welfare state is not a 1990s phenomenon, but one that can be traced back to the late 1970s and is still under way. Battle goes on to describe how social, demographic, political and ideological forces, often interacting with economic factors, are setting the course in the ongoing transformation of Canadian social policy. In his view, the series of changes and reforms implemented in the policies and programs related to income security over the last two decades reflect the emergence of a new conceptual framework which he describes as the "post-welfare state" model. This new model, as he defines it, retains the fundamental objectives of social policy but seeks new approaches and mechanisms related to financial sustainability, efficiency and effectiveness in order to adapt the old model to the changing economic, social and political realities of the new century.

Battle also makes clear that, while economic concerns have always been an aspect of social policy, they are "front and centre" in the post-welfare state. He identifies several key characteristics of this new approach to social policy, emphasising: (1) the replacement of universal social programs and needs-tested income security programs with broad-based and progressive income-testing, (2) a greater concern for the work-disincentive effects of social programs such as the effects of clawback provisions for social benefits and the welfare wall, (3) a greater integration of social programs and the tax system, (4) efforts to find a balance between "passive" and "active" social programs such as training or various preventive measures, and (5) attempts to measure the outcomes of social policy and provide greater accountability.

The chapter goes on to describe the major changes to social benefits and the extent of program coverage. The limits that were imposed, both directly through tightened eligibility requirements (e.g., Employment Insurance and social assistance) and indirectly through the partial de-indexation of various benefits (e.g., earnings supplements, the Child Tax Benefit) and tax credits (e.g., the GST and other refundable tax credits), have considerably reduced the size of the qualifying population relative to what it would have been.

However, Battle places the most emphasis on the changes to several income security programs that could be considered universal in the sense of not imposing income-based qualifying conditions and which over years have been reformed in that direction (e.g., Old Age Security and child benefits). He considers the displacement of demogrants (available to all) and needs-tested benefits by income-tested benefits delivered through the income tax system to be the most important advance in contemporary Canadian social policy. In addressing some of the criticisms of this approach, he argues that the large majority of families with children and seniors still receive benefits and that the changes have resulted in greater vertical equity overall. Battle also stresses the importance of the National Child Benefit in removing children from social assistance caseloads, which he considers "a major step forward in the essential task of dismantling social assistance and replacing it with more effective programs."

Battle describes the general process of reform and developments in social policy in the last two decades as one of "relentless incrementalism" where cumulative, purposeful and patterned change has produced a substantial shift in the structure of the Canadian income security system. He argues that this shift has occurred partly by stealth but also because Canadians had come to accept the need to deal with the chronic problems of public finances and were receptive to the criticisms directed at major social programs. The author concludes that in the end the emerging post-welfare state will better serve Canada's evolving social, economic and political needs. In particular, he sees little cause for continuing nostalgia over the fading universalist welfare state, which in his estimation never worked all that well.

The Outcomes: Canada's Economic, Social and Environmental Record

The final section of the volume turns more directly to the economic, social and environmental outcomes of the 1990s in Canada. The first chapter examines trends over the decade in various components of economic well-being. The second chapter provides a comprehensive overview of distributional changes during that period and the third chapter looks at long-term trends in intergenerational mobility. The final chapter analyses the relationship between economic growth and environmental degradation.

Lars Osberg of Dalhousie University and Andrew Sharpe of the Centre for the Study of Living Standards provide an overview of trends in a number of dimensions of economic well-being (consumption flows, stocks of wealth, income equality and economic security). They assess these trends through the lens of the Index of Economic Well-Being, a new composite measure developed by the Centre for the Study of Living Standards. In modern democracies, the authors point out, national systems of social and economic statistics have become a crucial part of the informational feedback loop of public policy. Through measures of social and economic outcomes, statistical agencies provide decision-makers and voters with the information that often defines the success or failure of public policies. The motivation for the development of the Index is the belief that current measures — such as trends in per capita income — may not necessarily be a good guide to popular perceptions of trends in economic well-being.

The main findings of the article are that after registering increases in the 1970s and 1980s, the Index declined in absolute terms in the 1990s. This development was largely driven by the fall in the economic security component of the Index. Two of the four subcomponents of economic security experienced significant declines. The risk from unemployment increased dramatically, reflecting the falling employment rate and, more importantly, the decline in the share of the unemployed covered by Unemployment Insurance (renamed Employment Insurance in 1996). The risk to financial security from illness, as proxied by the proportion of disposable income devoted to medical expenses, rose considerably, in part due to delisting of a number of medical services and higher drug prices. A decline in the equality component of the Index also contributed to the overall decline. In contrast, both the consumption and wealth stocks components increased, although at a slower pace than in earlier periods.

The time path of the Index was not one of continuous decline over the decade. Rather, the Index fell steadily from 1989 throughout the first half of the 1990s, hitting a trough in 1996. Since then, the Index has been on an upward trend.

Osberg and Sharpe point out that the determinants of the nearly 20 variables that make up the Index are complex. Certain variables have been strongly influenced by poor economic performance in Canada in the 1990s, some have been moderately influenced and, finally, some are largely independent of current economic performance in Canada (but not necessarily economic performance in other countries), because they are driven by either longer-run social trends or discretionary policy choices. But, overall, the authors conclude that there has been a direct link between the deterioration of economic performance in this country in the 1990s and the overall state of economic well-being.

The following chapter examines trends in earnings and income inequality in Canada. Andrew Heisz of Statistics Canada, Andrew Jackson of the Canadian Council on Social Development and Garnett Picot of Statistics Canada provide a comprehensive analysis of the distributional changes that have occurred in the 1990s as well as useful comparative perspectives in terms of both trends over time and the situation here relative to that in the United States. This exercise is all the more important given the significant changes and developments that have taken place in the labour market and the economy at large over the last decade. Indeed, there has been growing concern over the repercussions of these changes on Canadian society and the perception of increased polarization and a growing gap between the haves and the have-nots.

The story is a complex one that depends on which definition of income is used and whether the focus is on individuals or families. And, as this chapter shows, it also requires a thorough examination of the shifts beneath aggregate trends. In other words, the real story is to a great extent buried in the subtext. The authors focus on four aspects of distribution outcomes: (1) earnings and income inequality, (2) the relative earnings of the young and old and the more and less educated, (3) the changing relative position of men and women, and (4) changes in low-income trends in Canada during the 1990s.

Looking at long-term aggregate trends, the data indicate that earnings inequality, which had risen significantly in Canada between the 1970s and the 1980s, increased only modestly during the 1990s. Earnings inequality among men increased to a lesser extent in the 1990s than it had in the two previous decades, and even improved slightly between 1997 and 1998, while the changes among women were more muted. When earnings are aggregated at the family level, however, inequality is seen as continuing to rise in the 1990s. According to the authors, the difference between individual and family earnings is directly related to changes in marriage and family formation patterns and, in particular, the growing numbers of single-parent families and an increasing tendency for high earners to marry high earners and low earners to marry low earners.

The measure of inequality in family disposable income is of particular relevance to policy-makers as it reflects the distribution of total monetary income from all sources, including pensions, social transfers and investment income, and also takes into account personal income taxes. Interestingly, there appears to have been little change in this measure of inequality over the past 30 years. According to the authors, the earnings losses among low-income families throughout this period (and especially in the 1980s) were largely offset by increases in social transfer payments. Although data for recent years do suggest that some increase in disposable income inequality may have taken place, it is not yet clear whether this is related to cutbacks in some social programs in the 1990s or to changes in data collection methods over this period.

Of course, the apparent stability in some of the aggregate measures of inequality over the last decade masks important shifts and offsetting changes in the relative wages of various groups as well as within groups. For instance, the authors point to a widening earnings gap between younger and older male workers in the 1980s and 1990s, mainly as a result of the fall in the real earnings of young male workers (under 35). As the chapter suggests, the causes of this deterioration remain somewhat of a puzzle and even raise questions about the skill-biased technological change hypothesis and the resulting demand for skilled labour as a primary driving force behind the recent changes in the labour market outcomes of Canadian workers. For instance, there appears to have been no significant change in relative wages or employment rates among more highly educated workers as a whole in Canada throughout the 1980s and up to the mid-1990s. In fact, the situation was more one of deteriorating outcomes for the least educated. The latest data from the Labour Force Survey, however, do indicate that the earnings of young university-educated workers have increased in recent years, both in real terms and relative to the less educated.

The real success story in Heisz, Jackson and Picot's account of distributional outcomes over the past two decades is the dramatic improvement in the labour market position of women relative to men. As the authors report, women have experienced gains on almost all fronts, including significant increases in educational attainment, labour-force participation and employment rates, and a narrowing of the male-female wage gap as women's earnings rose more rapidly than men's in the first half of the 1990s. In both the likelihood of being employed and the likelihood of being unemployed, women's outcomes have improved considerably while those of men have deteriorated.

This chapter also provides an overview of low-income trends. The figures show that the low-income rate, which essentially mirrored cyclical changes in unemployment throughout the 1980s and at least up to 1994, continued to rise to a peak in 1996 (four years after the end of the recession) despite improving labour markets, and had not recovered by 1998. According to the authors, the increase in the low-income rate over the 1988-98 period can be attributed almost entirely to declines in employment earnings among families. Moreover, as they point out, social transfers did not offset these earnings declines as they had in the 1980s. The low-income gap (defined as the difference between Statistics Canada's low-income cut-off and the average income of low-income individuals and families), which had fallen steadily and significantly following the recession in the early 1980s, increased sharply after 1989 and continued to widen into the recovery through to

1998. According to the authors, the widening gap stemmed from both lower social benefits and employment earnings received by low-income families.

The issue of child poverty has been a dominant theme of the social policy debate in Canada for well over a decade. During the 1990s, however, the concern over this problem has shifted from simply a desire to reduce the incidence of child poverty to a broader awareness of its potential long-term consequences not only for the children currently affected, but for subsequent generations as well. These broader concerns have emerged as a result of the rapidly growing body of theory and evidence on the potential role of the "environment" in all of its complexity, including family structure, socio-economic status, neighbourhood and community, in predicting adult outcomes. These various factors can have a determining influence on early childhood development and subsequent readiness to learn, as well as on education and labour market outcomes later in life. One of the central issues in this debate is the nature of the relationship between family characteristics, in particular family income, and the long-term outcomes of children. As Miles Corak of Statistics Canada argues in the introduction to his chapter, an understanding of the extent of intergenerational mobility and the mechanisms that bring it about is of great importance for policy-makers. It has implications for education, health care, immigration policy and early childhood investment.

Corak's chapter provides an overview of the state of knowledge in this area and, most importantly, reveals the complexity of the factors at play and the gaps in our understanding of the underlying causes and effects. According to the author, Canadian society is characterized by a relatively high degree of intergenerational mobility — high enough to suggest that "being raised by a low-income parent does not pre-ordain children to a low-income adulthood." Indeed, Canada ranks among the most mobile advanced economies along with Sweden and Finland and has a degree of intergenerational mobility two to three times that of the United States. In general, international comparisons indicate that countries with a high degree of intergenerational mobility tend to have low rates of income inequality and child poverty. Canada differs in this regard, in that the incidence of child poverty reported is more akin to that of the least mobile countries such as the United States and the United Kingdom (although the use of an absolute as opposed to relative measure of poverty does improve our ranking). A further important point highlighted by Corak is that the pattern of intergenerational mobility varies across the income distribution. The degree of mobility, which is high at the lower end of the income distribution, declines to a moderate level further up the lower half of the distribution and then rises again over the upper half before reaching almost complete immobility at the very top.

Corak finds that, except for those families who are very well off and able to transfer wealth to their children, the primary way in which families might influence the future economic status of their children is indirectly through financial and non-financial investments in their overall capacity to succeed in the labour market. He notes that various models of human capital investment might help explain the patterns of intergenerational mobility observed, pointing to the potential link between the financial capacity of parents and access to higher education and the more subtle correlation between parent and child education levels, which bring other factors into play such as parental expectations and non-monetary investments. On the first issue, Corak finds little direct evidence on whether or not Canadian youths are being denied access to post-secondary education due to financial constraints, although it is evident that the pattern of increased intergenerational mobility in Canada over the past decades does coincide with the significant expansion of post-secondary education and public financial support. As for the quality of the environment in which young children are raised, and its impact on their development and long-term outcomes, Corak stresses that there is very little solid evidence about how this process plays out and in particular to what extent it is related to family income. As a result, he concludes, it is difficult to gauge the effectiveness of government policy based on long-term productivity arguments, and it may be that the best argument for initiatives aimed at child poverty and other related programs is the actual benefits provided to the children involved.

Finally, in the last chapter of the volume Kathleen Day and Quentin Grafton of the University of Ottawa explore the relationship between the economy and the environment. One perspective sees economic growth leading to environmental degradation by imposing stresses on limited natural resources and ecosystems and by increasing emissions of pollutants. A second perspective argues that the opposite relationship holds. Economic growth, once a certain level is achieved, leads to a cleaner environment, as higher incomes shift societal preferences toward better environmental quality and at the same time provide the resources necessary to achieve this goal. In addition, it is argued that economic growth is increasingly service-based, "decoupling" pollution from economic activity.

The authors examine the relationship between economic growth and environmental degradation in Canada. They point out that Canada faces a number of environmental challenges, including climate and atmospheric change, species loss, degradation of ecosystems and depletion of renewable natural resources, and that these challenges are driven by human activity in terms of consumption patterns, production processes and waste disposal. Day and Grafton use an econometric model to relate per capita income to 10 measures of environmental degradation in Canada over the past several decades. They find that economic growth has not itself reduced environmental degradation, as the second approach outlined above suggests. The implication of their findings is that economic growth does not necessarily resolve environmental problems. This does not mean that further economic growth is irreconcilable with the sustainability of the environment, but it does mean that public policy, at both the national and international level, must play a key role in balancing the needs of the environment with those of the economy.

CONCLUSIONS

The relationship between economic performance and social progress in Canada in the 1990s is complex and multi-faceted, as demonstrated by the chapters in this volume. Nevertheless, one message does stand out. The poor economic performance of the 1990s, as evidenced by high unemployment rates and slow growth in real income, had a major impact on many indicators of social well-being. While economic growth by no means buys advances in all areas of social progress, it is critical in a number of important areas such as poverty, economic security and consumption. There is little doubt that the longest decade would have felt considerably shorter had economic performance been better.

As stated earlier, the relationship between economic performance and certain measures of social progress may vary over time. Some observers have noted that economic growth and falling unemployment in the second half of the 1990s do not appear to have significantly reduced the poverty rate and have expressed concern that poverty reduction may have become "decoupled" from economic growth. Unfortunately, data on low-income trends are currently available only to 1998 so we do not yet know the impact of recent strong growth on poverty. Therefore, it is too early to make a judgement on the decoupling issue. A further possibility, which should also be investigated, is that previous cuts to social programs may have offset the effect economic growth might have had on the earnings of low-income families in the late 1990s. As we have seen, Canada's social policy infrastructure has undergone considerable change over the last decade, and in many ways the real test of the new regime will be how it performs through the next economic downturn.

Clearly, the impact of the poor economic performance and the key policy decisions of the 1990s is still being felt, and the repercussions are likely to continue to unfold for some time into the future. From this perspective, judgements on the effects of the 1990s must be considered interim ones. Indeed, the long-term consequences may be more important than those in the short term. Future contributors to the *Review of Economic Performance and Social Progress* will be invited to explore these issues.

NOTES

1 See Fortin, Sharpe and St-Hilaire (forthcoming) for a collection of papers exploring various dimensions of the linkages between economic growth and inequality. The papers are drawn from the IRPP-CSLS conference on this topic held in January 2001 in Ottawa. The conference papers are posted at www.csls.ca and www.irpp.org

2 The index simply adds the rate of unemployment to the rate of inflation thus treating them as equivalent.

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Economic Performance and Social Progress: Concepts, Measurement and Linkages

Needs and Wants: What Is Social Progress and How Should It Be Measured?

Lars Osberg

INTRODUCTION

When the United Nations Development Program published its *Human Development Report 2000*, its calculation of a Human Development Index put Canada in first place among all the world's nations. Norway, the United States and Australia were close behind, but for some observers the first-place ranking was all that mattered.[1] The Weighted Index of Social Progress (WISP), however, ranked Canada 31st — approximately on a par with Hong Kong, marginally behind the United States and well below all European countries.[2]

By what criteria should one choose among indices of "social progress"?

If we are to agree on a measure of social progress we have to agree on the scope of the adjective "social" and the meaning of "progress." It is clear that if we wanted to consider only the economic dimensions of well-being, there would be no need to use the term "social," but it is equally clear that economic and social issues are closely linked. The linkage arises partly because economic development and prosperity are important determinants of "sociological" change and partly because the resources produced by economic growth enable social policy expenditures. The relationship between economic and social issues is also reciprocal, since the process of economic production has social implications and social change strongly influences economic events. As a consequence of this interdependency, it is in practice very difficult to draw a clear dividing line between "economic" and "non-economic" issues, but it is clear that, whatever the line, economics is only part of life. Since a reasonable definition of "social" must reflect a broader conception of events than the purely economic, this article considers economic issues as a subset of social issues and social progress as referring to the progress of society on both social and economic dimensions.

What, then, is "progress"? The common meaning is "advance or development toward completion, betterment, etc: improvement" (*Canadian Oxford Dictionary* 1998, p. 1155). However, "betterment" or "improvement" implies some conception of "good" outcomes, and a process which approaches those outcomes. The idea of social progress therefore presupposes some conception of "the good" and some way of knowing whether society is getting closer, or further away. There are a broad variety of economic and social outcomes, each of which is experienced to a different degree by millions of individual citizens. Any summary index of social progress must therefore specify a list of social issues and find a way of weighing the relative importance of improvement or deterioration in each potential social and economic outcome for all persons — that is, a method of aggregating outcomes over individuals and across types of outcome. What criteria can guide this process?

In common usage, people often draw a distinction between needs and wants — and think of progress in terms of first meeting needs and then satisfying wants. This essay proposes the same hierarchy. The next section discusses how one might specify such a distinction. It argues that basic human rights should be thought of as needs, and that Canadian society has already committed itself to a definition of such rights in signing and ratifying a series of international covenants such as the UN Universal Declaration of Human Rights (1948) and the International Covenant on Economic, Social and Cultural Rights (1966).[3] One measure of social progress in Canada would therefore be the percentage of Canadians who actually enjoy their basic human rights.

Human Resources Development Canada (1997) notes that, after an extended dormant period lasting from the late 1970s through the early 1990s, "social indicators are back in vogue. Social analysts are showing interest once again in identifying and standardizing measurements of human well-being." While constructed by a variety of authors using an array of methodologies and calling themselves a variety of names ("quality of life indices," Human Development Index, Index of Social Health, Index of Social Progress, etc.), all social indicators attempt to measure aspects of social progress. Hagerty et al. (2001) and Sharpe (1999) have recently surveyed the literature from their own perspectives. The subsequent section of the essay examines a few of the indices most commonly cited from the perspective of whether or not they measure the satisfaction of needs (i.e., basic human rights) or wants.

The essay concludes with a discussion of possible empirical measures of trends in social progress in a country such as Canada.

NEEDS

Rights and Needs

How can we decide what basic human needs are?

For some people, the issue is straightforward. Those who believe that the Word of God is directly revealed in an authoritative text will look to that text for guidance. For them, the only important issue in defining and measuring social progress is the correct interpretation of the sacred text. The Taliban regime in Afghanistan and fundamentalist Christians in Canada disagree about which text (the Koran or the Bible) should be regarded as the revealed Word of God, but they concur in their reliance on divine revelation. Other fundamentalist groups appeal to other holy books, and all fundamentalist groups must find a method of choosing between alternative versions of the sacred text and among interpretations of the text in the context of modern life. At least in principle, however, the line of moral authority is clear.

If this essay were being written a century ago, its social context would be a Canada in which official pronouncements reflected a widespread and largely unquestioned faith in the virtues of Christianity, the British Empire and a set of social practices somehow associated[4] with both. Religious hegemony and the British Empire are now gone, and Canada, like other secular modern societies, has a more subtle problem. As a practical matter, when a number of groups of people believe in *different* sacred texts, peaceful cohabitation of the same geographic space requires some level of tolerance of alternative viewpoints. Tolerance necessarily implies that no particular sacred text should be granted precedence. In the Canadian context, as the pluralism of Canadian society has grown over time, it has become less and less possible to justify definitions of the good to which social progress corresponds by appeals to biblical references or the presumption of a "Judeo-Christian heritage" or the civilizing virtues for the Empire of "British values." However, the historical evidence is clear that such appeals have been important in the past. What is to take their place?

Moral philosophers who attempt to articulate a vision of social progress that does not rely on explicit divine sanction or ethnic traditionalism must start somewhere. For many,[5] the basic starting point has to be the individual — the conception, as Rawls[6] puts it, that "each person possesses an inviolability founded on justice that even the welfare of society as a whole cannot override" (Rawls 1971, p. 3). The liberal project in political thinking starts from the conception that all persons have the right to choose the parameters of the life they personally value. "The presupposition of liberalism (as a philosophical doctrine), as represented by Locke, Kant and J.S. Mill, is that there are many conflicting and incommensurable conceptions of the good, each compatible with the full autonomy and rationality of human persons. Liberalism assumes, as a consequence of this presupposition, that it is a natural condition of a free democratic culture that a plurality of conceptions of the good is pursued by its citizens... The consequence is that the unity of society and the allegiance of its citizens to their common institutions rest not on their espousing one rational conception of the good, but on an agreement as to what is just for free and equal moral persons with different and opposing conceptions of the good" (Rawls 1982, p. 160).[7]

In this conception, social progress must be measured in the "enabling" sense that a society progresses when it enables more of its citizens to choose the kind of life they personally have reason to value. However, if individuals are to exercise their personal autonomy in a meaningful way, their choices must be free and informed. In the work of Rawls and other moral philosophers (see, for example, Elster and Roemer 1991), there is a clear distinction between the primary goods, such as equal basic liberties, which are *preconditions* for effective individual autonomous choice, and the *objects* of those free and informed choices.

If some social, legal and economic outcomes are preconditions for individuals to exercise autonomous choice in the satisfaction of their wants, then these "needs" must be distinguished from, and have priority over, "wants." As well, if actual human individuals are both autonomous and social, embodying both a unique individuality which has a right to self-expression and a social personality that requires satisfying interpersonal relationships, the concept of "needs" must embrace the prerequisites of both autonomy and supportive relationships.

Although liberal, pluralist societies lack a common ethnic tradition or divinely ordained criteria for judging social progress, real-world decisions on public policy have to be made. Democratic societies claim legitimacy for these decisions from the institutions which produce them. These institutions function at a number of levels in the form of constitutions, treaties, legislation, regulations, judicial interpretations and administrative decisions, which constitute a hierarchy of legal status. Each level is constrained by the level above, but all ultimately derive their claim to legitimacy from some expression of consent of the citizenry, and the presumption that this consent is free and informed.

Constitutionalism in general and constitutionally embedded rights in particular are based on the idea that there should be a hierarchy of decision-making. The whole point of constitutions is that, although they are democratically adopted, they are hard to change and their provisions trump ordinary legislation. Because the framers of constitutions and the writers of treaties recognize that they cannot possibly anticipate the details of all future situations, constitutional provisions and international treaty obligations (e.g., under NAFTA) are often written in general language, as a framework for permissible later legislation and regulation. Since the provisions of ordinary legislation and regulations may also be somewhat unclear in a particular context, a court system exists to interpret the law in concrete situations and to reconcile apparent conflicts in the law.

In thinking about how to define the basic human rights which are the primary needs of citizens, these institutional mechanisms are a great advantage. Social philosophers (e.g., Sen 1985, 1999) have attempted to reason from first principles to establish the capabilities, freedoms and rights which are essential preconditions for the autonomy of all citizens. However, their writings ultimately represent the reasoned opinion of the author alone, which may or may not be persuasive to others.[8] It is unclear what percentage of the population needs to be convinced of the merits of a philosophical argument, or whether the criterion for acceptance is popular or academic opinion. Furthermore, the list of basic needs enumerated is invariably specified at a high level of abstraction and is often consciously incomplete (i.e., generally phrased and non-exhaustive).[9]

Philosophical discourse offers no way to verify the general acceptance of a specific list of human rights and has no mechanism for finding a balance among conflicting objectives or for interpreting general statements in a particular social context. Although, in practice, the political, social and economic rights enumerated by different authors have much in common, the ultimate arbiter of philosophical consensus is cogency of argument (as, for example, in the argument that literacy and basic education are prerequisites for the *informed* free choice of autonomous individuals).

Despite these difficulties, there is much to learn from philosophical debates. In particular, in the philosophical literature there is a general recognition of the interdependency of rights. As well, one can often read this literature as embodying an underlying conception of the "person in society" — Rawls (1982, p. 162), for example, refers to the "social bases of self respect" as one of the "primary goods." However, limitations are also apparent. Writers in the liberal tradition tend to start from an emphasis on the desirability of ensuring freedom and autonomy in the choices that individuals have in society, even though interpersonal relationships of any depth inevitably involve some interdependence. As a consequence, some feminist scholarship (e.g., England 1993; Nelson 1995) places less emphasis on the "separative self" and builds on a conception of "individuals in relationships," in which people have both unique individualities and social personalities and in which a basic need of individuals is to have satisfying personal relationships in a supportive community.

Because humans are both individual and social in their natures, these perspectives are best seen as complementary, but both are a distinct contrast to some types of economic thinking. In order to motivate discussion of efficient production, some economics texts use the "Robinson Crusoe" metaphor to explore how a person would behave if he or she were maximizing utility in complete isolation from other persons. In this story (the essential aspects of which are taught to both doctoral and introductory-level economics students), individuals derive satisfaction only from their own personal consumption of goods and services. When theorists define utility functions in which only a person's own consumption of goods and leisure appear, it is (by construction) irrelevant what others do or consume. This economist's story of individuals in isolation makes no sense in philosophy or politics. The concepts of justice, ethics and political activity are all inherently *social*. And since a "right" is a socially recognized entitlement, the lists of rights that flow from the concepts of justice or ethics are inherently social as well.

However, the continued debate over these differing conceptions illustrates the fact that academic discourse has no general institutional mechanism for deciding between arguments or for judging the extent to which the reasoned arguments of particular writers are accepted as valid in the broader population. There is also no basis except "professional consensus" (which can be hard to find) for resolving apparent or real contradictions or ambiguities of interpretation. Philosophy cannot, therefore, provide specific guidance for the immediate decisions required in day-to-day life. Since some practical resolution of immediate issues is needed, it is the role of the international and domestic legislative and legal systems to define and arbitrate values.

Law and Legitimacy

The UN High Commissioner for Human Rights (UNHCHR) has argued:

> *At the core of United Nations action to protect and promote human rights and fundamental freedoms is the International Bill of Rights. The Bill consists of three instruments:*
>
> *The Universal Declaration of Human Rights (1948);*
>
> *The International Covenant on Economic, Social and Cultural Rights (1966);*
>
> *The International Covenant on Civil and Political Rights (1966).*
>
> *These three documents define and establish human rights and fundamental freedoms.*

> *They form the foundation for the more than 50 additional United Nations human rights conventions, declarations, sets of rules and principles.*
>
> *The Covenants are international legal instruments. This means that members of the United Nations, when they become parties to a Covenant or other conventions by ratifying or acceding to them, accept major obligations grounded in law.*
>
> *States parties voluntarily bind themselves to bring national legislation, policy and practice into line with their existing international legal obligations.*
>
> *By ratifying these and other binding texts, States become accountable to their citizens, other States parties to the same instrument and to the international community at large by solemnly committing themselves to respect and ensure the rights and freedoms found in these documents.*[10]

International law differs from domestic law in that international courts cannot appeal to an international police force to exercise coercive power to enforce judgements. However, as the above quotation makes clear, Canada's signature on international treaties, and the ratification of those treaties by Parliament, are seen by the international community as implying more than an empty, rhetorical gesture. Specifically, the human rights enumerated in the international human rights documents to which Canada is signatory are international legal obligations.[11] Furthermore, a system (the office of the UNHCHR) exists to weigh the validity of individual assertions of violation of human rights and to interpret any ambiguity in the wording of these documents, or their relevance to a particular real-world context. In human rights, as with commercial obligations incurred under the World Trade Organization or the North American Free Trade Agreement, Canada's obligations under international law are interpreted by international institutions in which Canada has a voice and to whose jurisdiction Canada has formally agreed.

By repeatedly signing and ratifying international obligations to observe specified human rights, Canada has clearly accepted limitations on the legitimate exercise of domestic political sovereignty. In the same way and by the same process, Canada has accepted limitations on domestic legislation by agreeing to participate in the WTO and NAFTA. However, enforcement differs.

In practice, the contravention of trade protocols will affect the economic self-interest of corporate and industrial interests. These groups typically have the wealth and political influence to prod their national governments into making use of the trade sanction remedies built into trade treaties (as, for example, when the United States threatened punitive duties on Canadian steel exports, in retaliation for Canadian tax regulations which disadvantaged US magazines). The rich and the powerful have an interest in ensuring that the provisions of trade treaties are actually implemented, and international trade retaliation is a convincing mechanism for punishing those states which commit infractions.

By contrast, human rights violations are typically experienced by people without wealth and power. Although there is an important sense in which the *possibility* of being deprived of human rights such as free speech or shelter diminishes the freedom of everyone (even the affluent conformist), it is only a marginalized minority of the population who directly experience human rights violations on a day-to-day basis. Hence, if a government chooses to ignore its human rights obligations, people with economic or political power are usually not immediately affected, and governments typically face little short-run sanction other than the possibility of bad press.

However, human rights are central to national identity, social cohesion and democratic political discourse in a way that trading protocols can never be. Citizenship rights define important aspects of identity and mutual obligation in a pluralist society. Those ideas of what is "the right thing to do" are also crucial to voluntary compliance with the law, so a common understanding of human rights can be seen as essential to the rule of law.

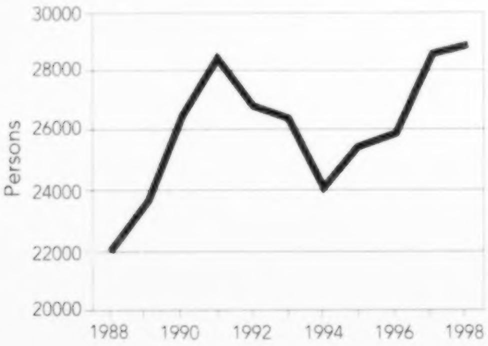
A particularly important aspect of the idea that we live in a liberal society is the presumption that basic human rights are unconditional and inalienable. The right to free speech is not, for example, a reward for "good behaviour." Free speech is not a privilege available only if individuals say the "right thing" or if they are morally praiseworthy on some other dimensions — and this concept of unconditionality is equally valid for the economic and social rights which Canada has repeatedly ratified in international covenants.[12] But there is no system of international sanctions to ensure that a nation actually lives up to its human rights treaty obligations. As a consequence, although the short-run penalty for human rights violations for a particular government may be small, the long-run cost to society of undermining the bases of political legitimacy may be very much greater.

The Interdependence of Rights

UN General Assembly Resolution 32/130 states: "The full realization of civil and political rights without the enjoyment of economic, cultural and social rights is impossible." In emphasizing that "all human rights and fundamental freedoms are indivisible and inter-dependent," the Resolution of 1977 drew on the conception of effective citizenship in a democratic polity, and the rights which that requires. In voting for that resolution, and others, Canada agreed that human rights are essentially interdependent in their application.

The interdependence of rights arises in part from the fact that specific rights represent dimensions of a more basic underlying conception. For example, underlying the enumeration in the Universal Declaration of Human Rights (1948) of such rights as freedom of opinion and expression (Article 19), assembly and association (Article 20), and participation in government and elections (Article 21) is the conception that all individuals have the right to participate freely and responsibly in the political and social life of democratic communities. Arguably, Article 26 (which establishes the right to education) is also a prerequisite of the right of citizens to participate in an *informed* manner in a democratic polity. Each one of the enumerated rights is valuable in itself, but each is also part of a larger conception. As well, interdependence of rights stems partly from the practical realities of life. A right to privacy (Article 12) is in practice empty without a right to housing (Article 25). Privacy requires control over a definable personal space, which, in a market economy, generally requires the ownership of property or the income with which to rent property. As the US courts have noted, "One of the main rights attaching to property is the right to exclude others,"[13] and the homeless have no such property rights. A legal "right

CHART 1
Recent Trends in Homelessness in Toronto Annual Hostel and Shelter Admissions Total Individuals, 1988-1998



Source: City of Toronto, Community and Neighbourhood Services, Shelter, Housing and Support Division. http://www.city.toronto.on.ca/homelessness/index.htm

to privacy," or a constitutional right to protection against unreasonable search and seizure, is therefore meaningless unless an individual also has rights to a definable personal space. If there is an enforceable "right to shelter,"[14] individuals may get such a space from the State, but in its absence they need to purchase ownership or leasehold rights to a personal space. The homeless do not have such a space.

Homelessness in Canada has been increasing in recent years (see Chart 1), and it is an issue with manifold implications for human rights. If a person does not have a home, where do they "live"? Where do they exercise their right to vote? Article 6 of Canada's Constitution Act of 1982 may, for example, say that all Canadians have "the right to move to and take up residence in any province" — but that right is hollow for the homeless. As the UNHCHR notes:

> *With the adoption of the Universal Declaration of Human Rights in 1948, the right to adequate housing joined the body of international, universally applicable and universally accepted human rights law. Since that time this right has been reaffirmed in a wide range of additional human rights instruments, each of which is relevant to distinct groups within society. No less than 12 different texts adopted and proclaimed by the United Nations explicitly recognize the right to adequate housing.... The indivisibility and interdependence of all human rights find clear expression through the right to housing. As recognized by several human rights bodies of the United Nations, the full enjoyment of such rights as the right to human dignity, the principle of non-discrimination, the right to an adequate standard of living, the right to freedom to choose one's residence, the right to freedom of association and expression (such as for tenants and other community-based groups), the right to security of person (in the case of forced or arbitrary evictions or other forms of harassment) and the right not to be subjected to arbitrary interference with one's privacy, family, home or correspondence is indispensable for the right to adequate housing to be realized, possessed and maintained by all groups in society.*
>
> *At the same time, having access to adequate, safe and secure housing substantiall strengthens the likelihood of people being abl to enjoy certain additional rights. Housin is a foundation from which other legal entitlements can be achieved. For example: th adequacy of one's housing and living conditions is closely linked to the degree to whic the right to environmental hygiene and th right to the highest attainable level of mental and physical health can be enjoyed. Th World Health Organization has asserte that housing is the single most importan*

> *environmental factor associated with disease conditions and higher mortality and morbidity rates.*
>
> *This relationship or "permeability" between certain human rights and the right to adequate housing show clearly how central are the notions of indivisibility and interdependence to the full enjoyment of all rights.*[15]

As an empirical matter, homelessness is the extreme end of a continuum. As Rossi (1991, p. 9) puts it, "literal homelessness is a condition of extreme deprivation; but it is only a step away from being precariously housed — having a tenuous hold on housing of the lowest quality. Like the literally homeless, those with precarious homes are extremely poor. ...extreme poverty is at the root of both literal homelessness and being precariously housed. Although there is clearly a line between those with homes and the literally homeless, that line is easily crossed. A life of extreme poverty is one of extreme vulnerability." That vulnerability is addressed in Article 11 of the International Covenant on Economic, Social and Cultural Rights: "The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions."[16]

Measurement Difficulties

If social progress consists, first of all, in an increase in the number of citizens who actually enjoy all their basic human rights, how can one tell objectively when social progress occurs? How can one tell if a basic human right is not fully available to the citizens of a country?

Both constitutions and the international treaties which define human rights and commercial obligations are always phrased in fairly general terms. Their application depends on the availability and interpretation of more detailed specifications. Although there is a process (through the UNHCHR) for the more precise definition of basic human rights, and that process has produced some fairly detailed specifications, there is always some level of judgement necessary in applying those criteria to a concrete situation.

To take the example of housing, the UNHCHR has specified that the right to housing entails: "1. Legal security of tenure 2. Availability of services, materials and infrastructure 3. Affordable housing 4. Habitable housing 5. Accessible housing 6. Location 7. Culturally adequate housing." Each aspect has been specified further — for example, affordability has been defined as implying that "personal or household costs associated with housing should be at such a level that the attainment and satisfaction of other basic needs are not threatened or compromised. Housing subsidies should be available for those unable to obtain affordable housing, and tenants should be protected from unreasonable rent levels or rent increases."

Although human rights covenants offer, in principle, a guide for the construction of indices of social progress, there are important empirical problems in measuring the extent of their implementation. The interdependence and multidimensionality of basic human rights make it difficult to argue for a simple "box score" of the number of rights actually enjoyed by a specific person. Although on any given issue there is a court-like process in Geneva which can attempt to ascertain whether the specific situation of a particular individual represents an infringement of a specific right, that process is far too expensive and too difficult to replicate for general statistical purposes. If time trends for the population as a whole are to be discerned, some statistical rules of thumb must be agreed.

To measure, for example, whether a "right to housing" is in practice being honoured, statisticians need empirical criteria. In almost all instances, one can think of the fulfilment of a "right" as multidimensional. On some dimensions of adequacy one may observe discrete changes (e.g., the presence or absence of indoor plumbing or running water), but on others (e.g., floor area per household member) continuous variation is possible. The Canada Mortgage and Housing Corporation determines the percentage of Canadians in core housing need using the criteria of adequacy (no major repairs needed), suitability (enough bedrooms for each person over age five) and affordability (costing less than 30 percent of before-tax household income). In 1996 approximately 18 percent of Canadians were in core housing need according to one or more of these criteria.[17]

Since housing adequacy differs on a number of dimensions (such as space and state of repair) and since minimum requirements differ among societies, the measurement of a right to housing has a cultural relativity problem similar to the measurement of poverty more generally. In the context of poverty, Sen (1992) comments: "*Relative* deprivation in the space of *incomes* can yield *absolute* deprivation in the space of *capabilities*. In a country that is generally rich, more income may be needed to buy enough commodities to achieve the *same social functioning*, such as 'appearing in public without shame.' The same applies to the capability of 'taking part the life of the community' " (p. 115).

To again use the example of the right to housing, although the UNHCHR specifies that this entails "sustainable access to clean drinking water, energy for cooking, heating and lighting, sanitation and washing facilities," that definition is sufficiently broad to encompass the reality of sub-Saharan Africa and Canada. In the context of Tanzania or Nigeria, "adequacy" does not generally require a source of heat and might well be considered satisfied with outdoor plumbing and communal water taps. In all parts of Canada, people without heat will freeze in winter and indoor plumbing and running water would be considered minimal (indeed, in present-day Canada, houses without indoor plumbing or running water are legally substandard and can be ordered demolished).

The argument over how best to define basic social and economic rights has much in common with the debate over how best to measure poverty. In both cases, it is widely granted that the dividing line between "deprivation" and "non-deprivation" is imprecise — but this does not imply that the distinction is meaningless. In both cases, it is widely recognized that standards may change over time, and will often differ across countries.

In the poverty debate, defenders of the idea of an absolute poverty line argue that poverty is not a purely relative phenomenon and should be measured with reference to a "budget standard" — a specific list of commodities whose cost defines the poverty line. In the measurement of economic and social rights, defenders of a simila "absolute" conception of rights would presumably argue that similar methods should be used with respect to specific social and economic rights.[18]

An alternative conception of basic human rights would see them as absolute in the space of capabilities but relative in the space of resources. In this view, the norms which define housing adequacy or suitability depend implicitly on what is the "normal" state of repair and amount of space available to the population as a whole. "Housing need" would therefore be defined with specific reference to community housing standards.

As with many issues in economics, the real objective in the measurement of social and economic rights is reliable comparisons over time, or across jurisdictions, rather than absolute accuracy in estimating the level at a particular place or time. To take the example of homelessness and the right to housing, careful observers will agree that it is difficult to make accurate statistical observations on a transient population and to distinguish between precarious housing and homelessness. As well, there are people who choose to sleep in a cardboard box in the middle of winter — although for the marginally mentally ill the concept of "choice" can be problematic.

But there is nothing unusual about these sorts of measurement difficulties. One can compare them to difficulties in the measurement of unemployment, in which there are important statistical ambiguities and a continuing controversy over the percentage of "voluntarily" unemployed. Because of these measurement difficulties, the "headline number" on *the* unemployment rate is actually only one of a range of calculable unemployment rates, each corresponding to particular technical measurement choices.[19] However, despite these difficulties the unemployment rate remains a useful statistic as long as the same concept of unemployment is being compared, over time or across jurisdictions, and as long as there is no persuasive reason to believe that measurement difficulties or the percentage of "voluntarily" unemployed have suddenly changed. Likewise, comparability is the important issue in measurement of trends in rights.

This section has argued that international human rights agreements have distinct advantages over the reasoned introspection of economists and social philosophers as a guide to the measurement of social progress (i.e., formal approval by a democratic process, relatively clear specification and an institutional mechanism for interpretation in particular contexts). The interdependence of human rights and the difficulties of measuring them do, however, create significant empirical problems. To what extent can the human rights perspective be empirically embodied in operational measures of social progress?

INDICES OF SOCIAL PROGRESS

This essay has argued that Canada's international legal obligations with respect to human rights should be used as a guide in identifying the "needs" of Canadians and determining whether they have been met. It has also argued that social progress consists of first meeting "needs" and then satisfying "wants." To illustrate some of the divergences of existing measures from this standard, this section examines a few of the available quantitative indices of social progress, using the prism of human rights. No attempt is made to be comprehensive and cover all published indices, since Hagerty et al. (2001) have already covered the field (using a different set of criteria). Rather, this section is intended to be illustrative, and to indicate how a human rights perspective might be used as a criterion of social indicators.

Human Development Index (HDI)

The Foreword to the UNDP's *Human Development Report 2000* begins with this statement: "The goal is to achieve all human rights — civil, cultural, economic, political and social — for all people. Access to basic education, health care, shelter and employment is as critical to human freedom as political and civil rights are" (United Nations Development Program 2000, p. iii). However, basic human rights considerations play little role in the actual calculation of the Human Development Index. The HDI is calculated as the average of three components: (1) average life expectancy at birth; (2) the logarithm of adjusted per capita GDP (measured in Purchasing Power Parity adjusted US dollars); and (3) a combination of the adult literacy rate (two thirds weight) and the combined gross primary, secondary and tertiary enrolment ratio (one third).

Since Article 26 of the UN Universal Declaration of Human Rights recognizes the right to education, the last component of the HDI might be seen as loosely linked. However, the enrolment number used in calculating the HDI is an aggregate of overall levels of education. Therefore it would be possible for the index to increase if some people were denied access to primary school — as long as others attended school for a sufficiently increased length of time. In general, indices which are constructed from underlying population averages will not necessarily reflect violations of human rights. Statistics such as the logarithm of GDP per capita or average life expectancy are completely insensitive to the distribution of income and the distribution of life expectancy, and therefore cannot reflect the denial of basic rights to part of the population. Even if an increase in the average is attained at the cost of greater and extreme deprivation of some, the index will increase as long as the gains of the winners are sufficiently large to cover the losses of the disadvantaged.

Hence the HDI is, despite its introductory rhetoric, quite insensitive to denials of human rights. Although the HDI does not in fact reflect human rights issues, it is at least calculated in a straightforward and easily understood way. This ease of understanding undoubtedly aids its acceptance by the broader public.

Weighted Index of Social Progress (WISP)

Ease of understanding of the underlying calculations is not a characteristic of the WISP. Hagerty et al. (2000, p. 47) summarize the WISP as a measure of "adequacy of social provision":

> *"Adequacy of social provision" refers to the changing capacity of governments to provide for the basic social, material, and other needs of the people living within their borders (e.g., for food, clothing, shelter, and access to at least basic health, education, and social services, etc.) (Estes 1984).*
>
> *The ISP consists of 46 social indicators that have been subdivided into ten sub-indexes: Education, Health Status, Women Status, Defense Effort, Economics, Demographic, Geography, Political Participation, Cultural Diversity, and Welfare Effort. All 46 indicators "are known to be valid indicators of social development; indeed, the majority of the*

> *ISP's indicators are employed regularly by other scholars of socioeconomic development" (Estes 1997, p. 3) ...Estes has subjected them to a two-stage varimax factor analysis in which each indicator and sub-index was analyzed for its relative contribution toward explaining the variance associated with changes in social progress over time. Exactly how this "changes in social progress over time" criterion for the factor analysis is defined is not specified in Estes's articles. To determine this...Estes (1988) must be consulted. Standardized scores of the component indicators then were multiplied by the factor loadings to create weighted sub-index scores which then were summed to obtain the "Weighted Index of Social Progress."*

The WISP can therefore be seen as a measure that begins with a conception of social progress which is quite close to the human rights agenda but whose link to human rights — in speaking to an academic audience among whom technical sophistication in statistical methodology is highly valued — loses clarity of linkage to human rights. In a sense, the WISP is adding up many of the "right things" but in a way that is so unclear that one is unsure as to the answer.

Why does the WISP rank Canada so low, when the HDI ranks it so high? Since the HDI puts heavy weight on average life expectancy and overall educational delivery, Canada does well, and the logarithmic transformation of GDP per capita tends to scale down the US advantage on that dimension. The WISP, however, also considers such issues as the relative position of women and the extent of welfare state policy effort, on which Canada does much more poorly in comparative terms. Hence, the probable reason for Canada's fall from first (HDI) to 31st (WISP) in international ranking is the greater breadth of coverage of the WISP — but the complexity of the WISP calculation prevents a clear comparison.

Genuine Progress Indicator (GPI)

However, although the WISP is very complicated in its methodology, simple addition is not a good solution if one adds up things unrelated to human rights. As Sharpe (1999) argues: "The GPI can be broadly split into two blocks: a measure of current economic welfare and a measure of sustainable economic development. Elements of current economic welfare consist of consumer spending, government spending, nonmarket production and leisure, and external factors. Sustainable economic development includes depletion of natural resources [non-renewable energy and farmland]; net investment in produced business fixed assets; net foreign lending and borrowing; long-term environmental damage [greenhouse effect and ozone depletion]; and long-term ecological damage resulting from loss of wetlands and harvesting of old-growth forests."

Viewed through the prism of basic human rights, since the measures of current economic welfare included in the GPI consist of economy-wide aggregates (such as total consumer spending or total change in leisure time), the GPI is insensitive to any event which causes deprivation of individual human rights as long as the gains of the winners are larger than the losses of the losers. In particular, as the history of the US income distribution from 1980 to 1995 illustrates, average consumer spending and extreme deprivation can easily rise at the same time if the gains of the very affluent are larger than the losses of the poor.

Those parts of the GPI which refer to environmental issues are potentially relevant for a measure of environmental progress. The international environmental commitments which Canada has made to other nations and the global community (e.g., in Kyoto) are in principle relevant to defining environmental progress, in the way that the human rights commitments of Canada are relevant to social progress. In practice, however, the environmental component of the GPI is heavily weighted to such issues as the cutting of old-growth forests and the preservation of wetlands. Although some environmental issues (such as depletion of the ozone layer and the rising risk of skin cancer) concern the health and well-being of humans, others are of a quite different dimensionality. Protection of old-growth forests may be of symbolic, ecological or cultural value, but it does not protect human well-being or human rights in the sense of human rights protocols. Most of the environmental component in the GPI is thus not relevant for a human rights-based approach to social progress.[20]

In short, the GPI is not linked in any discernible way to social progress, as interpreted from a human rights perspective.

Index of Economic Well-Being (IEWB)

In a series of papers, Osberg (1985) and Osberg and Sharpe (1999, 2000) outline a methodology for calculating an index of economic well-being (IEWB), which is a weighted average of measures of per capita consumption, aggregate accumulation, income distribution and insecurity. Trends in the index for Canada in the 1990s and their relationship to economic performance are discussed in the paper by Osberg and Sharpe later in this volume. As the name indicates, the index is intended as a measure of economic well-being only, and does not pretend to indicate overall social progress, which is a broader concept. Since the index is calculated as a simple weighted average of four components, the authors stress that observers who differ in their values can choose the relative emphasis they wish to place on (for example) income distribution, compared to trends in average consumption. Most of the work involved in construction of the index arises in attempting to get a better measure of trends in aggregate accumulation or average consumption than is available for the System of National Accounts. GDP statistics do not include consideration of many issues (like trends in leisure time, life expectancy or economies of scale in household consumption) which affect the utility individuals derive from consumption and ignore the accumulation or dissipation of real wealth in the form of human capital, the environment or research and development — but the IEWB does include these items.

The components of the IEWB that are based on societal aggregates (i.e., average consumption or total wealth accumulation) are insensitive to human rights issues in the same way that the GPI and the HDI are. However, the IEWB is clearly related to the human rights agenda in its insecurity component, which is explicitly based on the Universal Declaration of Human Rights, Article 25 of which states: "1. Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control."

The insecurity component of the index is explicitly based on the risks of unemployment, sickness, "widowhood" and old age. The income distribution component (which is a weighted average of aggregate inequality and poverty measures) allows for some variation in the relative emphasis on inequality among "middle class" persons or poverty (which is a summative index of the named items of food, clothing and housing identified in Article 25). Since the IEWB, by construction, lets observers select the weights they personally consider appropriate, it is open to a human rights emphasis in a way that many other indices are not.

Furthermore, in providing a fuller measure of economic well-being, the IEWB offers a way of measuring progress in the satisfaction of "wants," should Canadian society get to the point where "needs" are satisfied. Although it may not be for a while, one can at least hope that Canada will be in the position, at some point in the future, where all the fundamental social and economic human rights are actually the lived experience of all Canadians. At that point, improvements in average consumption and accumulation will become relevant for a measure of social progress.

CONCLUSION

This essay has used the basic human right to housing as an example of Canada's international commitment to a set of criteria that define minimal citizenship rights — but the human rights agenda is clearly much broader.[21] In examining what a human rights agenda might bring to the assessment of social progress, the essay has also examined a number of existing indices of social progress through the prism of a human rights perspective. The general moral is threefold: (1) data based on population means or totals cannot reveal the denial of rights to a minority; (2) social progress is about human outcomes, and is thus distinct from many environmental issues; and (3) excess complexity in data-processing can obscure the meaning of any underlying link to human rights.

However, existing indices are necessarily based on whatever statistics happen, now, to be gathered by statistical agencies. In principle, statistical agencies could collect new types of data, and obtaining reliable statistics on homelessness is an example of the type of data-gathering initiative that a human rights perspective on social progress would suggest. However, new data are not always necessary. In some instances, one may have good grounds for believing that proxy measures are available now and are a reliable guide to rights attainment. For example, the right to "adequate food, clothing and housing" is highly likely to be satisfied for the non-poor — so existing statistical sources on poverty trends may well suffice. In other instances, closer attention to existing data may be all that is required — for example, the issue of whether the "right to vote" is actually delivered can be checked by using census records to examine the percentage of Canadians who are not on the voters list.

In constructing summary statistics (as in an index of social progress) one needs to be clear about: (1) the population whose outcomes are relevant; (2) the outcomes, and their measures, that are being considered;

and (3) the aggregation function that sums across outcomes and individuals. This essay has started from the point of view that the relevant population is all the residents of a country. It has proposed that "needs" be given priority over "wants" and that the list of outcomes that are considered "needs" be drawn from the international covenants on basic human rights that a country has democratically agreed to. Adding up the lack of a particular basic human right involves a fairly straightforward calculation of the rate of non-satisfaction. A much more difficult issue is whether and how to aggregate across different outcomes. For the moment, however, it would represent significant progress in understanding if statistical agencies were to publish data on the percentage of the Canadian population who now enjoy each of the fundamental human rights which Canada has promised to deliver.

NOTES

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1 The UNDP Human Development Index was .935 in Canada, .934 in Norway and .929 in both the United States and Australia. See United Nations Development Program (2000, p. 178).

2 The WISP ranking scored Canada at 77.8, Hong Kong at 77.7 and the United States at 79.9. By contrast, the top five countries were Denmark (98.4), Norway (95.6), Austria (93.2), Sweden (93.1) and France (91.9). See http://caster.ssw.upenn.edu/~restes/praxis/tab_3.htm

3 The ICESCR was ratified by Canada on 19 May 1976. A complete listing of human rights protocols can be obtained at http://www.unhchr.ch/html/menu2/issecon.htm

4 In the Canada of 1901, social norms included widespread racism, sexism and homophobia — women did not yet have the vote, some legislation (e.g., on immigration) was quite explicitly racist and homosexual relations were illegal. The majority of Canadians in 2001 would count the degree of demise of such norms as part of the social progress of the past century — and a human rights perspective would concur.

5 Hayek (1944/1972) remains a classic statement of the individualist position. It argues (pp. 64-65) that no "common ethical code" exists that could define the "social goal" of economic activity.

6 For economists, Rawls is probably most familiar for his maxi-min criterion of distributive social justice — that social progress should be judged by the increase in well-being of the least advantaged. It is worth stressing that Rawls himself put this as a secondary priority. He saw a just society as incorporating two principles — the equal right of all citizens to basic liberties (primary goods) and a maxi-min criterion of distributive justice with respect to income. As he put it: "The first principle has priority over the second, so that all citizens are assured the equal basic liberties; similarly part (b) of the second principle (i.e. fair equality of opportunity) has priority

over part (a) (i.e. the maxi-min principle)" (Rawls 1982, p. 162).

7 Historically, some societies have emphasized collective goals — for example, public discourse in the United States in the 1800s often referred to a national "Manifest Destiny" and in China today reunification is seen as an issue that is unaffected by the wishes of the individuals actually living in Hong Kong or Taiwan. This essay does not follow that tradition.

8 As an example, just to make the point, it could be argued that humans need a little beauty in their lives, at least as much as they need religion. (After all, the aesthetic impulse in humanity has been evident since the earliest days, often closely associated with religion.) If an argument for a "right to beauty" were to be made (and, one must hasten to add, it has *not* been made by any of the social philosophers cited in this article) it might or might not be persuasive to other philosophers. However, the process of philosophical discourse offers no clear way of resolving arguments with finality, in a specific context.

9 See, for example, the use of "etc." in Sen (1999).

10 Fact Sheet #21, *The Human Right to Adequate Housing*. Available: www.unhchr.ch/html/menu6/2/fs21.htm

11 A listing of Canada's international human rights obligations, and the date of ratification, can be obtained at www.unhchr.ch/tbs/doc.nsf.

12 While it was in force, the Canada Assistance Plan reflected this unconditionality of human rights in making need the sole criterion for assistance. However, the introduction of the CHST in 1996 allowed provinces to make social assistance payments conditional, implying that the "undeserving" (however defined by the local legislature) have no right to assistance when in need, or as defined under the UN Universal Declaration of Human Rights, Article 25.

13 The Connecticut Supreme Court, in the matter of *Connecticut vs. Mooney*, on the appeal of a murder conviction which turned on evidence seized from the belongings of a homeless person, without benefit of search warrant.

14 Despite Canada's signature on numerous human rights documents, there is no such enforceable right to housing in Canada, in contravention of the fact that international law obliges states to act to give effect to their treaty commitments. The UN does note that: "Three phrases are particularly important for understanding the obligations of Governments to realize fully the rights recognized in the Covenant, including the right to adequate housing: (a) 'undertakes to take steps . . . by all appropriate means'; (b) 'to the maximum of its available resources'; and (c) 'to achieve progressively'." None seem able to excuse Canada's inaction (indeed backsliding, in the funding of low-income housing).

15 Fact Sheet #21, *The Human Right to Adequate Housing*. Available: www.unhchr.ch/html/menu6/2/fs21.htm. For links to websites on homelessness see www.canadiansocialresearch.net/homeless.htm

16 Hayek (1944/1972, p. 133) distinguished between security in the sense of "certainty of a given minimum of sustenance for all" and "security of a given standard of life." Writing in 1944, when per capita real GDP in Canada was 32.5 percent of its level in 2000, he stated: "There is no reason why in a society which has reached the general level of wealth which ours has attained the first kind of security should not be guaranteed to all without endangering general freedom."

17 See "Research Highlights" Issue 55-1. Available at: www.cmhc-schl.gc.ca/Research Brandolini and D'Alessio (2000) use Italian data to illustrate how measurement of deprivation depends, to some extent, on the relative weight of attributes in construction of a measure of housing deprivation.

18 In Australia the "budget standard" method of measuring poverty has dominated public debate,

partly because it was, historically, closely linked to their "wages awards" system of industrial relations. As a consequence, it is probably the world's most highly developed. Focus-group, polling and expenditure data are used to gauge explicitly social norms. The "low cost standard" aims at allowing "social and economic participation consistent with community standards" — which is arguably the norm implicit in UN human rights covenants. The resulting estimates are in practice approximately 70 to 75 percent of the median living standard; see Saunders (1998, pp. 14-16). Andrew Sharpe has suggested that if the incomes of the poorest remain unchanged while rising incomes among the affluent produce a greater demand for housing, rising rents may imply that homelessness increases as housing becomes unaffordable. In this case, the cost of purchasing a constant amount of shelter depends on the trend in average incomes.

19 For example, the Canadian Labour Force Survey counts as unemployed those jobless people who looked for work in the last month. If job search in the last two weeks were the criterion, fewer people would qualify as unemployed and the measured unemployment rate would be lower. Alternatively, a longer reference period would increase the measured unemployment rate. Choosing a reference period of two, four or six weeks is essentially arbitrary, and measurement choices do not affect the actual reality of labour markets — but since what we really want to do is make unemployment comparisons, the crucial issue is standardization of measurement.

20 Article 12 of the International Covenant on Economic, Social and Cultural Rights recognizes "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health" and specifically mentions "The improvement of all aspects of environmental and industrial hygiene." Environmental degradation that affects the personal health of humans can therefore be seen as a human rights issue — but *not* issues that affect "the environment" in some more general sense.

21 For example, by signing the International Covenant on Economic, Social and Cultural Rights (Article 7), Canada also committed to ensuring: "(a) Remuneration which provides all workers, as a minimum, with: (i) Fair wages and equal remuneration for work of equal value without distinction of any kind, in particular women being guaranteed conditions of work not inferior to those enjoyed by men, with equal pay for equal work; (ii) A decent living for themselves and their families in accordance with the provisions of the present Covenant."

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Social Capital, the Economy and Well-Being

John F. Helliwell

INTRODUCTION

At the beginning of this review of what research has thus far revealed, and what remains to be shown, about the relations among social capital, the economy and well-being, some clarifying definitions are in order. I shall start with a discussion of each of the three concepts under review, and will then consider ways in which these may be linked.

The working definition of social capital that is emerging in an increasingly interdisciplinary literature refers to the networks, norms and understandings that facilitate cooperative activities within and among groups of individuals. In some work a measure of generalized trust in others is part of what is meant by social capital, while other researchers prefer to treat interpersonal trust as something that is generated and supported by the more valuable sorts of social capital.

Most researchers agree that since social capital refers to the existence and strength of interpersonal ties, its value to individuals within networks and outside them depends on the uses to which it is put. Distinctions are frequently made between "bonding" and "bridging" social capital, with the former focused on ties within a group, sometimes in ways that increase distance and tension between groups, and the latter typically having a wider and more inclusive radius. Many actual situations are characterized by social capital that mixes these two types in different proportions, and there is no reason to expect an either-or situation to prevail.

There are bountiful references in the literature to the Mafia, the Ku Klux Klan, the Nazi Youth and bomb plotters as cases in which strong interpersonal ties can lead to malign overall effects. Not all bonding is good for the world, a point that some critics of social capital have used to support their scepticism. On the other hand, most theoretical and empirical analysts agree that high levels of interpersonal trust, to the extent that this trust is matched by trustworthy behaviour in others, do make many aspects of life more enjoyable and more productive, in part by reducing the costs of dealing with risk and uncertainty. Hence the idea of associating the pervasiveness of trust with the more useful forms of social capital. Right from the start, it is important to note that here, as is so often the case in the social sciences, it is easier to find correlations than it is to discover the directions and strength of causation. This suggests that special heed be paid to event studies, where it is more frequently possible to show the direction of causation.

Turning to the economy, interest has traditionally been concentrated on some measure of the standard of living, with per capita GDP, or sometimes a measure of sustainable consumption, as the focus. These measures are carried out for individuals and at some level of aggregation, whether the family, the community, the province, the nation or the world. It is usually appropriate to consider individual as well as community-level measures of income, since there is evidence that the satisfaction individuals derive from their incomes is based to a large extent on comparisons with incomes of others in their community. Numerous studies, including that by Osberg and Sharpe in this volume, have proposed revisions and extensions to GDP to adjust for incomes and expenditures likely to have welfare effects that differ substantially from what is implied by the normal GDP accounting. In the light of studies to be reviewed here, linkages between the economy and well-being are likely to depend heavily not just on income levels but also on income sources.

What about well-being? Although the primary focus of psychology over the past half century has been described as the study of psychological illnesses, there have been strands of psychological and interdisciplinary literature dealing with measures of not psychological illness but well-being. Numerous studies have shown that while there is a relation between perceived well-being and the absence of negative feelings or conditions, they are by no means the same thing. There has been some advocacy of a re-balancing of psychological studies to pay more attention to the determinants and consequences of subjective measures of well-being. The results of several decades of research using these measures form the basis for much of this paper. My survey will, however, be skewed to highlight studies that focus on linkages from social capital and the economy to well-being, including those effects of social capital that flow through economic and health outcomes to well-being. In a foreshadowing of what will be reported below, my review of the literature suggests that while much of the current interest in social capital is based on its presumed economic effects, the direct linkages from social capital to well-being are, if anything, better documented and likely to be of greater theoretical and empirical significance.

How does subjective well-being relate to social progress? Analysis of subjective well-being may be thought of as a way of adopting a bottom-up approach to the definition of social progress, first by searching for a measure of satisfaction with life, and then seeing to what extent the answers depend on variables that have been thought to be important to social progress. The well-being measures themselves do not distinguish private and social life; and the extent to which the respondents care about the rights and needs of others has to be inferred from the statistical results. The use of well-being data as an approach to applied welfare economics is in its infancy, so that the results thus far in hand are more illustrative than conclusive.

The subsequent sections of the paper deal first with links between social capital and economic outcomes, then with other channels of influence between social capital and well-being, and finally with the possible implications for future research and public policy.

DIRECT LINKAGES BETWEEN SOCIAL CAPITAL AND ECONOMIC PERFORMANCE

Robert Putnam's (1993) influential study of democracy in modern Italy documented a number of ways in which stronger horizontal ties in northern Italy were associated with more efficient local government and with higher levels of GDP per capita. This does not imply that higher levels of social capital, even of the bridging sorts considered to be most conducive to the smooth functioning of communities, are likely to give rise to sustained higher rates of economic growth, for two reasons. First, the link Putnam saw was one between levels of social capital and levels of GDP per capita, rather than one between levels of social capital and rates of growth of GDP per capita. Second, the evidence was in the form of a positive correlation, with causal influence possibly running in either or both directions or from other factors affecting both income and social capital.

Fortunately, one of the underlying reasons for the many years of Italian research by Putnam's team was the opportunity to study inter-regional differences in the consequences of devolution of powers from the national to the regional governments at the beginning of the 1980s. This devolution of powers provided the basis for an event study of the sort that could throw much light on the consequences of social capital. Putnam's hypothesis was that although there were many dimensions to the differences among the 20 regional governments in Italy, several measures of horizontal connectedness would help to predict which regions would make more effective use of the devolved powers. Several indicators of governmental effectiveness were assessed before and after the devolution, and in general the predicted results were observed — the more a region was characterized by horizontal ties of the sort referred to as bridging social capital, the more likely it was to make effective use of the new powers, and to maintain or improve the quality of services provided.

But what of the links to economic growth? It is doubtful that anyone steeped in the recent growth history of sub-national regions in Europe would find anything to support such links, since the predominant post-war pattern of convergence among the regions of Europe saw the poorer regions of Italy, which also tended to have lower levels of social capital, growing faster than the richer regions. However, since the governmental reforms took place partway through the convergence process, it was possible to test for a slowing or even a temporary reversal of convergence for those regions with low levels of social capital. Thus treating the governmental reforms as an extraneous event disturbing a conventionally modelled process of regional convergence allowed for identification of the negative growth effects of low social capital (Helliwell and Putnam 1995). During the early 1980s, the regional growth convergence in Italy was reversed, to a greater extent in those regions estimated to have lower levels of social capital. Of course, there is always the possibility that something else was behind this reversal, and the estimated effect did not have a high degree of statistical precision. But the result at least suggested that inter-regional differences in the efficiency of local government, which became even more important when greater powers were devolved to the regions, were such as to temporarily reverse the growth rankings of the regions, in favour of those with higher levels of social capital.

In the absence of more events and data calibrated for the study of the linkages between social capital and growth, many studies have simply inserted national measures of social capital, interpersonal trust, and sometimes the quality of governmental and other institutions, into cross-sectional growth regressions. This method is not likely to produce convincing results, since measures of social capital tend to be fairly stable through time and in any event to be infrequently surveyed, so that there is a risk of cross-country effects of social capital being mixed in with a whole range of other factors that differ from one country to the next but for which there are no adequate measures. My results for OECD countries and for Asian economies (Helliwell 1996*a*) were negative for both trust and the extent of organizational memberships, as were my results using data for Canadian provinces and US states (Helliwell 1996*b*). However, Knack and Keefer (1997) found that by increasing the sample to include a number of middle-income developing countries they were able to identify a statistically significant positive link to economic growth from trust, although not from organizational memberships. Zak and Knack (1998) got the same result using a sample of 40 countries, and were even more successful in finding a positive link between trust levels and investment rates. Knack (2001) reports more fully on attempts to separate organizational memberships into two types, one of which is likely to comprise memberships of organizations of a sort whose cohesiveness and success might be achieved at the expense of non-members, and hence be less likely to contribute to aggregate growth. In this work, Knack is testing the view of Olson (1982), which is that many groups are rent-seeking organizations that have negative implications for economic efficiency and growth. However, Knack (2001) and Zak and Knack (1998) found no evidence that membership in either type of organization has a significant effect on growth and no evidence that organizations of the type presumed to be rent-seeking were detrimental to growth.

Thus, as Temple (2001) notes in his recent survey, the primary evidence linking social capital and economic growth comes not from direct measures of connectedness but from international differences in trust. The influence is exerted in two ways: as a direct effect of trust on growth, and as an effect of trust on investment spending, with investment then increasing output per capita either via increases in the capital/labour ratio or through some presumed links between the pace of investment and the expected level of technological efficiency. In both cases the existence and strength of the results are sensitive to the time frames and countries used in the sample.

There is also a literature seeking links from the quality of institutions of various sorts to the quality and extent of economic growth. Some definitions of social capital include the quality of institutions, hile most recent social capital research opts r a narrower definition. This does not mply a belief that institutions are unimortant, or that they are not linked closely ith social capital in ways such as those llustrated by Putnam in his study of Italian egions. As argued by Woolcock (2001), the urpose of adopting a narrower definition of ocial capital is to achieve clarity, and also to elp disentangle what social capital is from hat it does. In this context, it is perhaps ppropriate to think of both trust and institutional quality as, in part, consequences of ocial capital (as well as possible causes, of ourse), rather than as part of social capital narrowly defined. Temple and Johnson (1998) follow Abramovitz (1986) in describing as "social capability" the set of attitudes and institutions favourable to sustained economic and social progress, leaving the term social capital to describe, in Woolcock's (2001) words, "norms and networks that facilitate collective action." A good part of the sociological literature on social capital, as noted by Portes (1998), places primary emphasis on the contacts or networks acquired by individuals to facilitate their own actions and secondary emphasis on the consequences for their communities. There is a matching strand of economic literature emphasizing the theoretical importance of contacts and networks for individuals and trying to explain individual decisions (Glaeser 2001) to develop and extend their own networks.

Whether the focus is decisions by individuals about community participation or national-level evaluation of social capital, the theoretical and empirical contributions tend to accord a central place to trust. In an environment of trust, individuals assume that others are benevolent and do not rely on expensive safeguards or complicated contracts to support their economic and social ventures. There is a large body of game-theoretic work, in several disciplines, showing that under conditions of uncertainty (and what other conditions are there?) mutually advantageous outcomes are far more likely when dealings are characterized by the maxim treat others as one would be treated. Such behaviour has a moral force in many religions and moral philosophies, because if widespread it leads to positive outcomes for society as a whole. It also meshes with self-interested rules in situations of dense and repeated interpersonal dealings. By contrast, where general trust levels are low, individuals risk greater personal losses, and being labelled brainless dupes, if they do not play it safe. This often entails avoiding what otherwise might be good ventures, or else burdening activities with expensive protective baggage.

There is discussion and debate about the extent to which individual networks of trust and contacts are substitutes for an impersonal market governed by the rule of law. It seems clear that a legal system with defined and enforceable rules is more necessary in the absence of personal ties, but in the social capital literature the emphasis is on the extent to which trust and reliable legal systems and other public institutions are complementary. Any legal system is simpler and easier to establish and enforce if it merely codifies accepted norms of conduct.

Accepting that trust is likely to reduce the costs and risks of both economic and non-economic activities, how good are the trust measures commonly used for research purposes? The following question, which has frequently been included in international surveys since Almond and Verba (1963) conducted their path-breaking studies of post-war democracy: "In general, do you think that most people can be trusted, or that you can't be too careful in dealing with people?" Many studies repeat the same question, for two reasons: to compare results for different times and places; and because the precise phrasing of the question can influence the answer considerably, and to an extent that differs among types of respondent. For example, results from the US General Social Survey show that in response to the full question males are significantly more trusting than females, while in response to only the first half of the question females are more trusting than males (Helliwell and Putnam 1999). Also, suspicions have been raised that the question does not translate readily from one language or culture to another. However, Almond and Verba (1963) found that French-speaking and German-speaking Swiss gave similar answers to the full question, as did French-speaking and Flemish-speaking Belgians, with measured trust in all four cases much above that based on answers to the same question asked in France.

The above question asks not whether the respondents are trusting, but whether they think other people are trustworthy. Most analysts would agree that the latter, if the responses are well informed, is the appropriate measure. But what assurance is there that people are well informed, and that their answers reflect objective indicators of trustworthiness rather than media opinions or current public opinion? To address this issue, Knack (2001) compared international differences in answers to the above question with the frequency of return of money-filled wallets left experimentally in the street in different countries. He found a high correlation (0.65) between international differences in personal opinions and the corresponding international differences in the prevalence of trustworthy behaviour. Inherent in such a comparison is the assumption that when asked whether others can be trusted, respondents are answering with respect to behaviour in their own country. This assumes rather than proves the importance of national borders in defining the society to which people refer, though respondents are likely basing their answers on primarily local experience and information.

If future research is to focus on the radius of trust, and to probe more deeply into the roles of distance and national borders, more detailed questions will have to be asked. There are several reasons for wanting to know more about the extent to which distance and national borders weaken the horizontal ties emphasized in the narrower definitions of social capital, and act to set boundaries to the communities within which networks are established, norms created and trust engendered. Some of these will be explored further in the concluding section. There are studies showing that the intensity of economic linkages of various types decreases with both distance (Grossman 1997; Hazledine 2000) and national borders (McCallum 1995), to an extent far greater than can be accounted for by transportation costs, currency differences (whether these be as large as suggested by Andrew Rose 2000 or as small as suggested by Thom and Walsh 2001), tariffs or non-tariff barriers to trade (Head and Mayer 2001), or other explicit costs of doing business in and with other countries. These border effects apply to merchandise trade (McCallum 1995; Helliwell 1996*c*), service trade (Helliwell 1998, chapter 2), capital movements (Feldstein and Horioka 1980; Helliwell and McKitrick 1999), prices (Engel and Rogers 1996), migration (Helliwell 1997, 1998) and knowledge spillovers (Helliwell 1998; Keller 2000). The full extent and implications of these results are still under study (Obstfeld and Rogoff 2000; Anderson and van Wincoop 2001; Hillberry 1998, 1999; Helliwell 2000), but one possible reason for the existence of these distance and border effects, and for the fact that they will remain substantial in the future, is that they reflect the fact that trust and networks diminish the costs of dealing with uncertainty, and that such networks are themselves easier to develop and maintain where the other parties are close at hand and share many of the same norms and institutions.

EXTENDING THE ANALYSIS: SOCIAL CAPITAL AND WELL-BEING

To get a full picture of the consequences of social capital for well-being, we must look beyond the level and rate of growth of GDP per capita. This requires that we first make some judgements about what are to be used as measures of welfare, and then establish some theoretical and empirical connections. This section will do so in two steps. First I shall review briefly some of the evidence linking social capital and health outcomes, since good health and longevity are included in various ways in all broader measures of well-being. Then I shall turn to consider some of the large literature describing the determinants of subjective well-being.

Does social capital save lives? It would seem so. One of the earliest papers, and still one of the most convincing, is a mortality study by Berkman and Syme (1979) of almost 5,000 residents of Alameda County, California, selected randomly in 1965 and followed thereafter for nine years. At the outset, the researchers collected data on several types of social networks as well as a number of important control variables. Four types of social contact were assessed: marriage, contacts with close friends and relatives, church membership, and informal and formal group associations. For each of the four types, individuals who had greater ties had lower mortality rates over the nine-year period. There was a hierarchy of effect, with marriage having the greatest effect, followed by close relatives and friends, church membership and memberships in other types of organization. A weighted index of these social contacts was found to predict not just all-cause mortality but also each of four subdivisions: ischemic heart disease, cancer, cerebrovascular and circulatory diseases, and an "all other" category including diseases of the respiratory and digestive systems, accidents and suicide. These are striking findings, but they are naturally open to fears of reverse causation. Is it not possible that those in poor physical and emotional health would be less able to develop and maintain social contacts, rendering suspect the conclusion that social networks were supportive of health? One of the great strengths of the Alameda County study is that the authors collected a full range of information on each participant's socioeconomic status, self-reported health status at the time of the initial survey, year of death, health behaviour (e.g., smoking, drinking, physical inactivity, obesity, utilization of preventive health services) and availability and use of health-care services. The link between social networks and subsequent mortality was found to be independent of variations in all of the above control variables, thus reducing to essentially zero the likelihood that the 1965 social networks and the 1965-74 health outcomes were both due to differences in health status at the time of the initial survey. The authors conclude that although the precise pathways remain to be assessed, there are likely several mechanisms in play, since the results apply across many causes of death.

The results described above trace the linkages from an individual's social connections to his or her subsequent health experience. What about evidence at the community level? Do communities have characteristics that make them more likely to support good health and long life? One strand of literature in this vein (Wilkinson 1992; Ben-Shlomo, White and Marmot 1996; Kawachi et al. 1997; Mustard 1998; Wolfson et al. 1999) discusses a link between community-level income inequality and health status, higher mortality being found in communities with more unequal income distribution. Wolfson et al. (1999) show that this association is not simply a consequence of a non-linear individual-level effect of income on health, a possibility raised by Gravelle (1998). Kawachi et al. (1997) argue that social capital is to a large extent the mediating variable between income inequality and health outcomes. The relationship is also likely to vary from one health-care system to another, as universal health care, relative to a system of unequal coverage, might help to weaken or remove the link from income inequality to average health status. Thus Ross et al. (1999) argue that the universal availability of publicly financed health care in Canada may explain why the negative linkage between income inequality and health status that is significant for US states and metropolitan areas is not found in Canadian provinces or metropolitan areas. Putnam (2000, chapter 20) surveys many other studies, and also reports new evidence showing better health outcomes in states with higher values of social capital, even after adjusting for a number of key control variables.

Grjebine (2000) argues that societies are situated on a spectrum of respect for the rights of others, as established by laws and accepted norms of behaviour. He views a country's position on the spectrum to be a function of the degree of social cohesion and the extent to which important segments of its population have been marginalized. He suggests that driving manners and respect for the rules of the road are a good indicator of a country's social consensus, as shown by the number of traffic fatalities. Grjebine illustrates his proposition by contrasting France, whose holiday road toll he bemoans, with Norway, with its low rate of traffic fatalities and high scores on all measures of social capital and trust. I have done some preliminary tests of his proposition using traffic fatality and trust data for OECD countries (Helliwell 2000, 39) and find substantial support for his notion.

More than one third of the cross-country variance of late-1990s traffic fatalities is associated with mid-1990s national differences in average survey answers to the trust question described earlier. More research is needed to test the robustness of this result and to establish the likely pathways, ideally in a way that also explains the widespread, but not universal, drop in traffic fatalities over the past quarter of a century. Differences in social capital can help to explain international differences in the traffic and driving laws passed, as well as in the extent to which these laws are respected and enforced, whether by courtesy or threat of punishment. But there are also national and international changes in safety equipment, tourist traffic and mixes of vehicles to be considered. For the moment, the result is a hint rather than a demonstration that at the community level, as well as the individual level, social capital can save lives.

We have assessed thus far some of the linkages between social capital and health. Another key variable closely linked with both social capital and well-being is education. In all studies of differences among individuals in the extent of their connectedness and trust, education levels are uniformly the strongest and most consistent explanatory factors. This is potentially a powerful result, for if social capital can be shown to have an important effect on well-being, whether directly or through health or income, then calculations of the total returns to investment in education need to be broadened considerably from estimates based solely on the incomes of those with more education. A caution against the assumption that more education for all would be good for all is provided by Nie et al. (1996), who argue that while trust levels are indeed pushed upward by both individual and average education levels, participation in political and other organizations depends on relative rather than absolute education levels. If their findings are accurate, then raising average education levels will increase trust but not average participation levels. Although the issue is still unresolved, subsequent research (Helliwell and Putnam 1999) using more appropriate definitions of average education levels re-establishes the result that participation rates in most types of organization increase with both relative and average education levels.

We turn now to consider well-being more directly. The psychological study of well-being has for many decades been overshadowed by the study of negative states. One study found that articles examining negative states outnumbered those examining positive states 17 to 1 (Myers and Diener 1995). Nonetheless, the field has become increasingly active; a recent survey article (Diener et al. 1999) refers to more than 300 studies of subjective well-being published since Wilson's (1967) broad review more than 30 years ago.

Wilson's correlations profiled the happy person as a "young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious married person with high self-esteem, job morale, modest aspirations, of either sex and of a wide range of intelligence" (Wilson 1967, 294, quoted by Diener et al. 1999). Over the succeeding decades, less attention has been paid to the correlates of happiness, especially simple correlates, and much more attention has been paid to, and experimental research devoted to, the interdependencies, timing and causal pathways. Several strands of this research have special relevance for this paper.

Although good health still contributes to happiness, research into the subjective well-being of victims of paralysing accidents and winners of lotteries has shown a remarkable tendency for well-being to return to baseline levels (Brickman et al.

1978). Several theories are used to explain this phenomenon. The theory of endowments and contrasts (Tversky and Griffin 1991) holds that each new experience has offsetting effects on well-being. A good experience, such as a lottery win, a good meal or an exceptionally fine concert, raises well-being directly through what is called the endowment effect. However, it also enters the comparison set against which all subsequent experiences are assessed, or contrasted. If the contrast effect is weak, then the fine meal or concert leaves a glow that is not tarnished by the realization that subsequent meals and concerts are not of the same quality. If the contrast effect is dominant, then one exposure to something preferable may actually lower long-term subjective well-being. By the same token, if the contrast effect is strong, an accident victim who becomes a quadriplegic may so value his or her remaining powers and experiences as to be happier than when good health was simply taken for granted.

Another theory of the joint relevance of absolute and comparative experiences is that individuals have defined goals and aspirations, and are happier if the gaps between goals and reality are manageably small and appropriately diminishing (Michalos 1985). This leads to the question of how goals are set and adjusted. The answer turns out, naturally enough, to be complicated, with each individual's personality playing a role, along with aspirations and values absorbed from family, friends, community and the media. The role of the underlying personality, including a strong genetic influence, is a very powerful one. Results of studies with twins suggest that genetic differences account for some 40 percent of current subjective well-being and a larger share of negative emotionality (Tellegen et al. 1988).

Longer-term differences in subjective well-being, which are based less on current circumstances, are estimated to be 80 percent genetic in origin (Lykken and Tellegen 1996), although these underlying differences represent a relatively small proportion of interpersonal differences in subjective well-being at any particular time. The interaction among personality, local and community values, and life experiences helps to explain the variety of responses to what appear superficially to be similar events. Clearly, shared community values can play a role in influencing aspirations, and values and expectations can travel over long distances. If, as is often suggested, the content of domestic or foreign television and films inflates expectations about income or consumption levels, then psychological studies suggest a corresponding drop in well-being, independent of any change in actual income or consumption.

Given the established gaps between aspirations and performance, the link between actual income and subjective well-being is likely to depend on a variety of contextual variables, as well as personality traits and underlying values. The relations between income and subjective well-being have been studied cross-sectionally within a nation, over time for individuals or for aggregates, and across nations. Within communities or nations, the partial correlation varies from group to group, is not always significant and tends to be small in value. There is some indication from studies of high income earners (Diener et al. 1985) and from studies finding smaller increases in subjective well-being at higher income levels (Frey and Stutzer 2000) that here are diminishing returns to higher ncome, even when measured in relative erms. Lottery winners were found to be no appier than a control group of non-win- ers, despite their expressed satisfaction vith having won the lottery (Brickman et l. 1978), although higher levels of subjec- ive well-being were found in winners of ootball pools in the United Kingdom Smith and Razzell 1975).

In a cross-national sample, a correla- ion was found between average per capita ncomes and subjective well-being (Diener et l. 1999, 288), although Easterlin (1974, 1995) argues that this relation disappears at high income levels. In any event, the fact that good health, higher levels of education, responsive and corruption-free political systems, and average levels of social capital all have positive simple correlations with incomes per capita cautions against any inferences being drawn on the basis of simple correlations. Studies attempting to relate changes in aggregate income per capita to changes in subjective well-being across countries have found little or no relation (Oswald 1997). Disentanglement of the relations among incomes, comparison incomes and subjective well-being is likely to require individual-level data, sampled over time, along with the capacity to test a number of community-level, peer-group and national candidates for defining relative incomes.

The psychological literature offers two further cautions against the assumption, commonly made in economics, that if some is good, more is better - whether of income, information or range of choice. This assumption is presumably as common as it is because the negative consequences of satiation can be avoided by accepting the possibility of free disposal. Hence it is usually assumed that the more choice and the more information the better, as they permit the consumer to choose the best option from among a large set of possibilities. However, this assumption does not take into account the costs of decision-making and the possibility that knowing of more options will lessen satisfaction with the eventual choice. Iyengar and Lepper (1999) found that subjects offered a wider range of consumer choices were frequently less able to reach a decision and were more likely to regret the choices they did make. As trade becomes increasingly intra-industry in nature, and as the potential gains from trade are calculated more and more on the basis of the availability of product variety, we need to seriously consider the possibility that increased choice may reduce well-being.

The second caution relates to motivation. Researchers have found that those who described financial success as more important than goals related to self-acceptance, sense of community or affiliation reported lower levels of well-being, even when financial success had been achieved. Kasser and Ryan (1993, 1996) argue that this result may stem from the fact that subjective well-being is enhanced by progress towards intrinsic human needs but not towards extrinsic goals (such as wealth, beauty or fame). Subjective well-being is hence likely to flow from progress towards goals of the sort that Brunstein et al. (1998) describe as motive-congruent.

What of the direct effects of social capital on well-being? The early survey by Wilson confirmed marriage to be the social connection showing the strongest positive correlation with subjective well-being, but it dealt with other social ties to a much lesser degree. Putnam's recent results from the DDB Needham Life Style Survey (Putnam 2000, chapter 20) confirm marriage to be the most beneficial form of social interaction - equivalent to moving 70 percentiles up the income hierarchy, holding constant a range of other possibly confounding variables, such as age, gender, education, income and other forms of social engagement. Putnam's large DDB sample also allowed him to simultaneously assess the effects of education, income, and various kinds of social and civic engagement, so that each effect is an estimate of the marginal impact flowing directly rather than through one of the other channels. Thus the effect of education on subjective well-being, which he found to be very large - four years of education has the happiness equivalent of a doubling of income - is independent of the indirect effects of education on happiness, because it enables higher incomes, positive health habits, and social and civic engagement. Putnam also found a significant association between social engagement and happiness, with monthly club meetings, monthly volunteering, monthly entertaining and bi-weekly church attendance each having the happiness equivalent of four extra years of schooling or a doubling of income. Of course, these large income-equivalence measures are in part the mirror image of an earlier finding that increases in income - even increases in relative income - have fairly small impacts on subjective well-being. It is also important to remember that while these are appropriately estimated partial correlations, they are not free of the risk of reverse causation or of the possibility that both social engagement and well-being are the result of other, unmeasured, interpersonal differences. For example, the finding that certain personality types are genetically predisposed to happiness and extraversion suggests that such individuals will report higher subjective well-being and will also be more involved in their communities. These personality types routinely report higher levels of well-being and a more positive view of social interaction; hence they are more likely to engage in social interactions and to derive pleasure from them. Thus there is a need for more research that isolates personality types to permit more precise estimates of the implications of exogenous increases in social interaction for subjective well-being, abstracting from the influence of personality differences.

Measures of subjective well-being have also been used in traditional macroeconomics, such as in estimating the relative costs of inflation and unemployment and, more generally, in assessing the costs of unemployment. It has been shown that both unemployment and inflation lower subjective well-being by more than the usual measures of their economic cost. This is especially true for unemployment (Oswald 1997), so that estimates of the well-being trade-off between inflation and unemployment attach relatively more weight (Di Tella et al. 2001) to unemployment than is implied by conventional "misery indexes," which in the absence of any primary data simply assume that a 1 percentage point increase in the unemployment rate is as bad for welfare as a 1 percentage point increase in the inflation rate.

One of the most imaginative uses of well-being measures is to be found in recent work by Putnam (2001). He recognizes the need, much emphasized in this survey, to include both individual and community-wide levels of well-being determinants, in order to differentiate more clearly between absolute and relative effects. Putnam's research also suggests a framework for assessing and combining estimates of the direct and indirect effects of income, education, health and social capital on well-being. His preliminary equation explained individual-level US observations on subjective well-being by means of individual and community-level values for income, education and social capital. He found that individual levels of all three determinants had significant positive effects on well-being. Statewide measures of income had a significant negative coefficient, showing that most of the happiness effect of higher income is based on relative rather than absolute income. By contrast, the state-wide or county-level measures of social capital and education had positive effects, sometimes significantly so. One interpretation of these results is that education and social capital have positive externalities, while income has negative externalities, as assessed by means of changes in subjective well-being. Another way of expressing the point is that when other people have higher levels of education or community involvement, the typical individual has a greater sense of well-being, perhaps because he or she gains directly from contacts with these more educated and civic-minded people. By contrast, when other people (the Joneses) have higher incomes, it exposes the inferiority of one's own income, thus reducing subjective well-being.

IMPLICATIONS FOR FUTURE RESEARCH AND PUBLIC POLICY

Several conclusions can be drawn from the foregoing survey. First, there are important linkages from measures of trust and social connectedness to well-being. Some of the influences appear to flow through economic channels, while most do not. Thus attempts to evaluate the importance of changes in trust and connectedness at the individual, community and national levels should not be limited to economic pathways.

The psychological literature on well-being provides a necessary caution against assuming that individuals function as though in an impersonal market environment marked by full information and limited interdependence of tastes, preferences and actions. In actual fact, individuals, families, communities and nations interact in the setting of norms, the establishment of institutions and the processes of daily life. More fundamentally, the social nature of human beings is never more obvious than when one reviews studies of subjective well-being. Although such studies are sometimes described as hedonistic and illustrative of a disturbing tendency towards a quest for self-gratification, the evidence shows that the structure and quality of social relations are in many ways fundamental to self-assessment of well-being.

If subjective measures of well-being are to be used to inform research and policy, there are many research gaps to be filled. As I have suggested, the primary task is to ensure that individual and community levels of variables are considered consistently, so that researchers can assess the importance of absolute and relative measures and the scope or radius of the comparison groups. The need for such an assessment in analysing the delivery and consequences of education, as stressed by Willms (2001), has relevance extending right across the social sciences.

The policy relevance of social capital and well-being research has many dimensions. For individuals, families and communities, the conclusion seems clear: well-directed efforts to remain connected are likely to be much more important than previously realized. Thus survey evidence of the sort presented by Putnam (2000) for the United States, indicating several decades of decreasing connectedness in those areas that psychological research has shown to be most important for the maintenance of well-being, ought to set off alarm bells and trigger new research. Are these trends towards increasing disengagement present in other countries? If they are found in varying degrees in different cultures and communities, why is this so? More generally, what are the geographic and political boundaries of the communities that matter most to individuals, and what are the mechanisms by which changes in one community are copied or rejected in another?

Although the primary implications relate to research needs, because so much remains to be discovered, there are some immediate implications for government policies. For example, there is evidence that the effects of government policies and decisions concerning education (Wolfe and Haveman 2001) and health are far broader, more complicated and more pervasive than previously recognized. At the risk of oversimplification, the evidence may be taken to suggest that non-economic pathways between health and education policies and well-being are more extensive and more important than those flowing through the abilities of individuals to find and keep productive employment. Many of these links flow through community ties, so that the ways in which policies are designed and implemented may be more important than the precise services that are provided. The service providers, and the perceived trustworthiness of the decision-makers and service providers, may be particularly important. In this respect, the fact that in several countries trust in government has declined faster and further than other forms of trust is especially troubling.

Trust is established slowly and lost easily. The ability to re-establish trust in government may be diminished in an era of mass communications and media spin. When messages are seen as sales pitches, their objectivity is bound to be doubted. Actions may speak louder than words in circumstances of diminished trust. All of this suggests not that policy should simply assume the public is sceptical but that it be designed and implemented with an eye to restoring a climate of trust, which is likely to require less top-down policy design, more acceptance of policy diversity to suit local styles and preferences, more experimentation, and more careful evaluation of what works and what does not. Evidence-based policy design and implementation seem more important than ever today, given the increasing evidence that government policies have had many unintended consequences for social capital, trust and the quality of civic life.

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Public Views of Economic Performance and Social Progress

The Economy Through a Public Lens: Shifting Canadian Views of the Economy

Frank L. Graves

INTRODUCTION: AIMS AND STRATEGY

The impact of economic performance on perceptions of economic and social well-being and attitudes toward redistribution in Canada is an intimidatingly broad topic. There are really two basic and quite separate questions: how does the public see the performance of the economy, and how does the performance of the economy influence attitudes toward redistribution?

We will begin by considering the basic terms of the first question. What do we mean by economic performance? Are we referring to GDP, job creation, standard of living, unemployment or wealth creation? Clearly, each of these disparate dimensions of the economy refers to some important aspect of economic performance. Moreover, "the public" is hardly a monolith and the perception of the different dimensions of the economy will vary significantly according to one's location in society.

Moving from the official economic world of GDP, or productivity and unemployment rates, we enter the decidedly murkier realm of public perception. We carefully use the term "official" rather than objective economy to point out that an official statistical description of economic reality is not necessarily the ultimate criterion, or ultimate truth. While official statistics are clearly more scientific than public perceptions, public perceptions are not always "wrong" just because they are not synchronized with official statistics. For example, official unemployment rates seriously understated real unemployment in the mid-1990s (e.g., due to the high incidence of discouraged workers).

Although the social science literature is not entirely consistent on this point, it does suggest that there is a close relationship between perceived and "real" economic indicators, and that public opinion concerning the economy bears a close relationship to what is actually happening in the economy (i.e., public opinion mirrors economic indicators such as unemployment and inflation).[1] However, Canadians' views of economic performance are, at times, only loosely connected to objective accounts of the "official" economy. Repeatedly, respondents to social surveys and participants in focus groups strenuously question the veracity/meaning of "objective" indicators of economic performance.

Our data show that during the second half of the 1990s we noticed a significant lag between recovery of economic confidence among consumers/citizens and apparent recovery of the objective economy. Also, our research with focus groups showed a broad tendency to discount the legitimacy of many conventional measures of economic performance. For instance, very few Canadians believe that the unemployment rate is an accurate measure of the real extent of unemployment. It is our sense that the gap, volatility and lag factors were especially pronounced (in both qualitative and quantitative evidence) during the middle part of the 1990s. These vagaries in public perception are not simply a function of low levels of economic literacy, although this factor certainly accounts for a good deal of the tension between official and public accounts of the economy.

It should also be recognized that perceived economic performance is segmented according to the social and economic circumstances of the perceiver. Typically, affluent and educated members of society are more likely to be aware of and agree with economists' accounts of economic performance.[2] In Canada, governments typically lose the support of public opinion during economic hard times and see a less dramatic return of support when economic good times return (Clarke et al. 1992*b*)[3] (although our own analysis shows that economic optimism is a consistent, strong and significant predictor of support for the incumbent government).

This article focuses not only on economic well-being but also on social well-being. This expanded focus presents a daunting problem. Economic performance as it translates into standard of living is only one component of perceived quality of life Most people believe that social well-being is a much broader and more elusive concep that includes both equality and wealth and a host of other non-economic factors (e.g., human rights and freedoms, environmental quality, health outcomes, security from crime and violence).[4] In fact, one of the most basic public policy dilemmas is the relative importance and trade-off of the economic and social dimensions of well-being.[5] We will comment later on a growing tendency for the public to explicitly connect the social and economic realms of well-being.

The literature suggests that it is often hard to separate out the specific factors that cause shifts in public opinion. Public opinion on social issues differs from that on other kinds of issues (Page and Sharpiro 1992). As a result, the nature of the interplay between social indicators and economic growth, for example, is not well understood (Krause 1997; Fedderke and Klitgaard 1998). While it seems clear that stability of public institutions, stability of political regimes and leve of rights play a definite role in economic growth, the same cannot be said for other social indicators or values — that is, those that are more closely linked to "quality of life."[6]

This leads to the final area of discussion implied by our topic. What is the relation ship between perceived economic perform ance and attitudes toward redistribution? At the most basic level, does a sense that the economy is performing well make the pub lic more or less supportive of the distributive role of the State? While we can provide some answers to this narrow question, it becomes more meaningful when set against a broader question: how do changes in perceived eco nomic performance influence the perceived role of the State? In particular, how have shifts in attitudes toward the economy and economic performance affected public support for the achievement of social progress through State intervention?

To simply look at attitudes toward (for example) taxation, social assistance or regional transfer payments is to miss the point that these views are modified by fundamental shifts in attitudes towards the role of the State. Moreover, we are witnessing a broad historical transformation in the role of the State concerning its economic and social functions. There is a voluminous literature on these shifts in attitude.[7] Furthermore, our internal research confirms the broad finding that both trust in and support for government in its "passive" redistributive role have declined over the past 20 years. Declining support for the welfare state has, however, been somewhat overstated. In fact this support has been disguised by a shift in strategies for achieving social well-being. For instance, support for social assistance has been replaced by support for "active measures" (e.g., skills investment, self-employment assistance, early-childhood intervention) to deal with some of the very same social and economic issues.[8] Focusing merely on redistribution may serve to occlude the more fundamental question of the role of government in achieving social progress and improved quality of life.

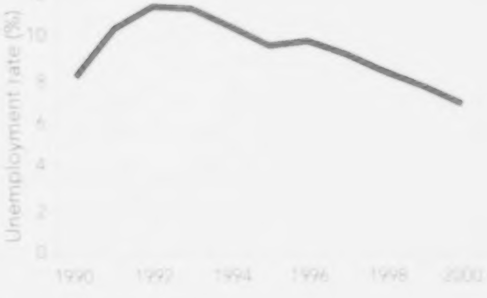
Public attitudes toward change, innovation and technology have undergone profound shifts. These shifts are linked to the emergence of globalization and the new economy and are producing significant pressure on State/economy/society linkages, with outcomes that are still highly uncertain. In fact, the cumulative evidence suggests that the past decade has seen complex structural changes in public attitudes towards the State, the economy and social well-being, and that these changes are both driving and reflecting shifts in the institutional spheres (Graves and Reed 1999).[9]

Although we have set our problem against a complex historical backdrop, our intentions in this brief discussion are quite modest. We will attempt to shed some preliminary empirical light on the matter based on ongoing research at EKOS (EKOS Research Associates 1997). We will provide a largely descriptive synthesis of some of our main conclusions. Our focus will be on four core questions:

1. What is the relationship between public perceptions of economic performance and the broad statistical performance of the Canadian economy? (Our focus will be on the areas of productivity/growth, employment and income levels.)
2. What is the relationship between economic and social well-being? (Our focus will be on public perceptions of this relationship.)
3. How has national economic performance (both statistical and perceived) influenced attitudes toward redistribution in Canada?
4. How has economic performance influenced broader attitudes toward active government involvement in the achievement of social progress?

The literature on the relationship between the official economy and the perceived economy is quite mixed in its conclusions but tends to agree that there is a discernible imperfect relationship between

CHART 1
Unemployment Rate, 1990 to 2000



Source: Statistics Canada

the two. It also speaks of lags between economic shifts and public perceptions of those shifts. Some public perceptions may in fact precede changes and even influence the "objective" economy. For example, in the United States the Conference Board's Consumer Confidence Index fell for the fifth consecutive month beginning in October 2000 (Conference Board 2001). These declines in consumer confidence actually predate, or at least are contemporaneous with, a real slowing of the American economy (Greenspan spoke of zero growth in January 2001). In the case of consumer confidence, public perceptions certainly do not lag behind the official economy and may well lead economic performance. This, however, is not a central question for our analysis.

PUBLIC PERCEPTIONS OF ECONOMIC PERFORMANCE: THE PAST DECADE IN REVIEW

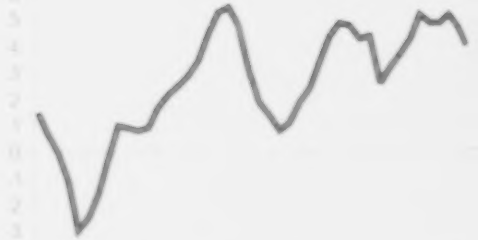
The public view of the Canadian economy is quite different from the official statistical record, although there is an imperfect relationship between the two. In the 1990s the economy was perceived as considerably more turbulent than it was, particularly in the middle part of the decade. It was also perceived as failing to strengthen for a significant period while it was in fact growing. Both of these phenomena were most evident in the middle part of the decade.

Before considering public perceptions, we present three statistical economic indicators for the three domains of economic performance noted in our first core question — unemployment rate, real GDP growth and real per capita personal disposable income (Charts 1, 2, and 3).

While the nomenclature of the economic realm remains mysterious for many Canadians, the core concepts of these three indicators are seen as having a "real world" impact and meaning. We have also added a measure of inequality (the inequality ratio) (Chart 4), which, although not directly a measure of economic performance, is germane to our discussion.

The charts clearly show that unemployment has fallen steadily since the early 1990s recession, that economic growth has

CHART 2
Real GDP Growth, 1990 to 2000

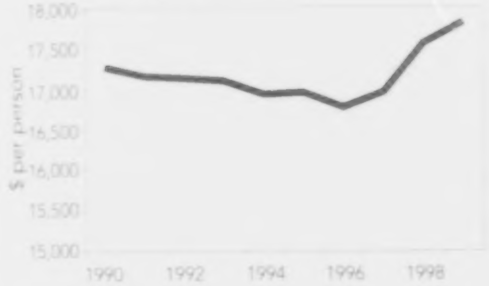


Note: Annual percentage change, quarter to quarter, i gross domestic product at market prices, in constant 1992 dollars.

Source: Statistics Canada

CHART 3

Real Per Capita Personal Disposable Income, 1990 to 1999



Note: Per capita personal disposable income in constant 1992 dollars.

Source: Statistics Canada

increased since the mid-1990s and that real per capita disposable income increased throughout the 1990s. Chart 4 indicates, however, that, despite this rosy economic picture, income inequality rose in the latter part of the decade, implying that the fruits of the good economic performance observed were not well distributed. Moreover, it should be noted that in the latter part of 2000 the economy showed signs of slowing down, reflected in flattening growth in the GDP and little change in the unemployment rate. As well, recent news about an anticipated recession south of the border may soon be manifested in the indicators in Canada.

The Perceptual Indicators

EKOS has conducted interviews with hundreds of thousands of Canadians over the past 20 years, and our databases contain hundreds of variables germane to the topics at hand. While we will use other variables later in this article, we begin our examination of the past decade by tracking three variables — *fear of job loss* (Chart 5), *sense of loss of control* over one's economic future (Chart 6) and views on the strength of the Canadian economy (Table 1).

Our time series for *fear of job loss* and *sense of loss of control* are much more complete. We also have the advantage of some new (January 2001) data that allow us to evaluate whether the pervasive media discussion of an impending downturn, slowdown or recession (particularly as it applies to the American economy) has broadly influenced economic security amongst Canadians.

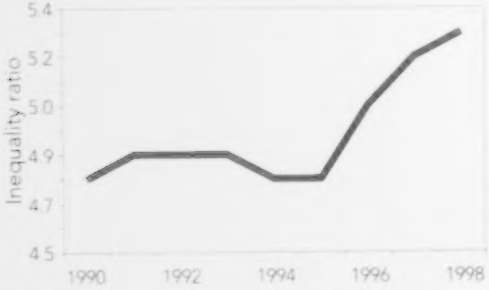
The charts show different aspects of the same story. First of all, insecurity declined in the latter part of the decade in a highly significant manner. The personal security indicators *fear of job loss* (Chart 5) and *sense of loss of control* (Chart 6) both dropped by nearly half. Similarly, perceptions of an improving overall economy shifted from a slight better:worse ratio of 45:31 in 1996 to a definitive 56:19 ratio in May 2000 (Table 1).

Another important characteristic of our security indicators is the high degree of segmentation in these responses by region and socio-economic status (Charts 7 and 8).

Fear of job loss and broader insecurity are higher amongst less-educated and lower-income groups. Comparing the underlying

CHART 4

Income Inequality Ratio, 1990 to 1998



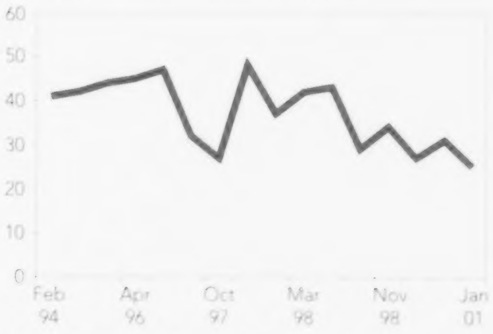
Note: Computed as the ratio of the average after tax income of top quintile to the bottom quintile of economic family units.

Source: Statistics Canada

CHART 5

Fear of Job Loss

Percentage of employed Canadians agreeing with the statement: *"I think there's a good chance I could lose my job in the next couple of years."*



Source: Rethinking Government, EKOS Research Associates Inc.

demographic structure from 1994 to 2001, we find that the education effect is stronger today than it was in 1994, suggesting that the new economy is placing a greater accent on human capital.

There are also sizeable regional, generational and gender effects. Also, today's regional patterns are quite different from those of 1994. Otherwise the underlying demographic correlates of insecurity are fairly stable. Economic security is strongly linked to expectations of government in a manner that we will explore in the final section of this article.

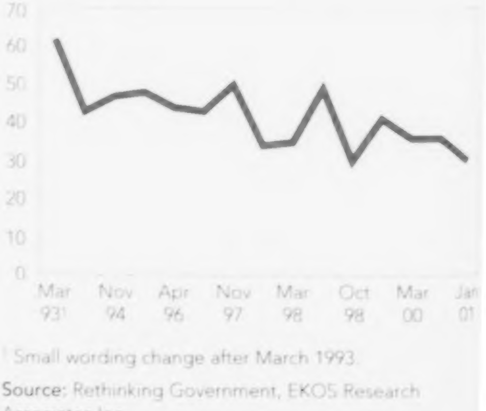
A direct comparison of official economic indicators and their (roughly) corresponding attitudinal indicator is problematic, largely because of issues relating to timing. While figures on expenditure-based GDP growth are released quarterly and frequently revised, we have asked Canadians about their sense of control over their economic futures irregularly and at different times. Nevertheless, there is merit in directly examining two variables — the unemployment rate and the *fear of job loss* expressed by employed Canadians (Chart 9).

While objective and subjective measures display the same general downward trend, there are important discrepancies between them. First of all, *fear of job loss* actually rose between early 1994 and April 1996, while the unemployment rate dropped from 10 to 9 percent. This was followed by some volatility until 1998, when *fear of job loss* started dropping in closer alignment to reduced unemployment. The perceptual data show volatility in the views of Canadians that is not evident in the unemployment rate. This is particularly true of the 1996-98 period, when Canadians were, it seems, highly uncertain about whether the recovery was real. We will comment on this "unhinged" quality later. Although both job and broader economic security indicators are volatile, the broader measure of *sense of loss of control* is par-

CHART 6

Perceived Loss of Control Over Personal Economic Future

Percentage of Canadians agreeing with the statement: *"I feel I have lost all control over my economic future."*



[1] Small wording change after March 1993.

Source: Rethinking Government, EKOS Research Associates Inc.

TABLE 1

Tracking Views on the Canadian Economy

"Compared to five years ago, do you think that the Canadian economy is doing much worse, worse, the same, better, or much better?"

	Nov 96 (n=1535)	May 00 (n=1505)
Better	45%	56%
Same	24%	24%
Worse	30%	19%
DK/NR	2%	1%

Source: Rethinking Government, EKOS Research Associates Inc.

ticularly mercurial (Chart 6). This may reflect public anxiety about not only the labour market but also the broader vagaries of interest rates, public finances, domestic and global stock markets and currency rates.

We would also argue that the sharp reduction on this indicator reflects not only differences in the business cycle but also structural shifts as the economy moved to greater dependence on technology and as north-south trade grew much more rapidly than east-west trade. Globalism, trade liberalization and new technology all caused considerable anxiety and turbulence that seem now to have been replaced by greater levels of public comfort with the "new" economy.

For example, the first part of Chart 9 shows fears rising while unemployment is flat or improving. This may reflect the relatively inert quality of insecurity. We speculate that anxiety and insecurity are more stubborn than confidence and optimism. In other words, the lagged quality of perceived insecurity vis-à-vis the official economy may not be symmetrical with respect to moving from good times to bad. People seem to stubbornly hold on to their fears but will quickly abandon confidence. We saw the same inertia attached to beliefs about the state of public finances in Canada. This may also be a unique feature of the Canadian public — Americans are less insecure, according to our recent comparison survey, although no more optimistic.

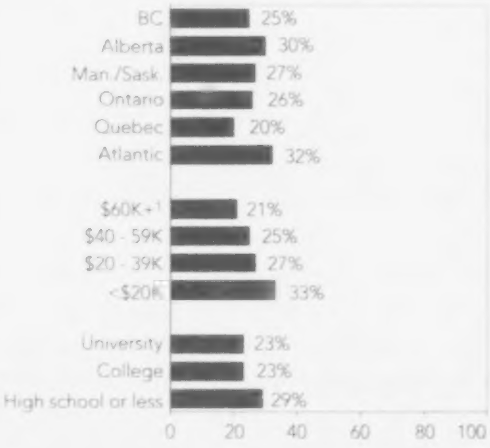
A Qualitative Check on the Official/Public Gap

Analysis of these quantitative perceptual indicators is of only limited assistance in solving our problem. Qualitative research using focus groups is a more subjective or "phenomenological" tool for deconstructing relationships in the "lived-in world" (*lebenswelt*). By this we mean that we rely more on the personal accounts and understandings of the respondent than on external measures and analysis of their situation.

CHART 7

Fear of Job Loss – Demographic Variations

Percentage of employed Canadians agreeing with the statement: *"I think there's a good chance I could lose my job in the next couple of years."*



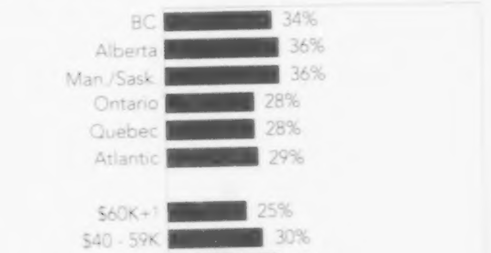
¹ Refers to household income

Source: Rethinking Government, EKOS Research Associates Inc.

CHART 8

Perceived Loss of Control Over Personal Economic Future – Demographic Variations

Percentage of Canadians agreeing with the statement: "*I feel I have lost all control over my economic future.*"



1 Refers to household income.

Source: Rethinking Government, Jan. 2001, EKOS Research Associates Inc.

Many qualitative studies conducted by EKOS over the 1990s examined public perceptions of national and local economic performance, social well-being and redistribution (EKOS Research Associates 1997). This research elaborates on the existence of an imperfect relationship between objective measures of economic performance, provided by leading macroeconomic indicators, and public perceptions of the state of the economy.

Two key related factors appear to underlie this apparent distortion. First, people tell us that they form their perceptions about the state of the Canadian economy based on their personal economic circumstances and on examples of local economic growth. This may help to explain why media reports of impending economic gloom have not affected our most recent measures of job and personal security. Second, Canadians tend to be highly sceptical about the validity of objective macroeconomic indicators. It is our sense that this scepticism (like the lag and turbulence effects) was higher in the 1996-98 transitional period than at other times.

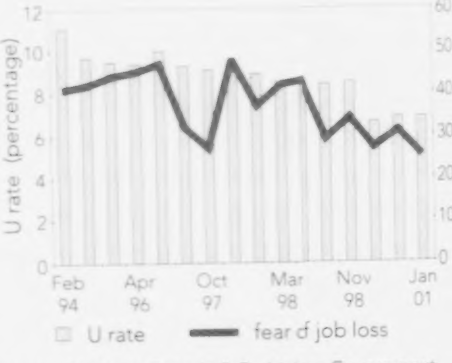
In addition to anecdotal observations of their economic circumstances, the objective indicator that Canadians point to most often as evidence of real improvement is lower unemployment rates. Other key indicators used by economists and reported by the media, such as inflation rates, stock market performance and GDP growth, are less familiar and relevant to the average person.

Yet even the unemployment rate is seen as an imperfect indicator of economic performance. Many people erroneously assume that it reflects the number o Canadians who are receiving Employmen

CHART 9

Perceived Loss of Control Over Personal Economic Future

Percentage of Canadians agreeing with the statement: "*I feel I have lost all control over my economic future.*"



Source: Statistics Canada & Rethinkng Government, EKOS Research Associates Inc.

TABLE 2

Tracking Demographic Variables on Perceived Economic Indicators

Percentage of Canadians agreeing with the statement: *"I feel I have lost all control over my economic future."*

	Feb. 1994 n=2369	Jan. 2001 n=3099
Region		
Atlantic	42	29
Quebec	41	28
Ontario	45	28
Man./Sask.	49	36
Alberta	46	36
British Columbia	42	34
Age		
<25	36	23
25-44	42	29
45-64	50	37
65+	47	31
Education		
=/<HS	47	36
College	45	28
University	37	26
Gender		
Male	38	29
Female	48	32

Percentage of employed Canadians agreeing with the statement: *"I think there's a good chance I could lose my job in the next couple of years."*

	Feb. 1994 n=1532	Jan. 2001 n=2457
Region		
Atlantic	52	32
Quebec	33	20
Ontario	45	26
Man./Sask.	51	26
Alberta	46	30
British Columbia	28	25
Age		
<25	42	25
25-44	43	25
45-64	39	26
65+	38	25
Education		
=/<HS	45	28
College	46	24
University	32	23
Gender		
Male	38	25
Female	45	25

Insurance benefits and thus under-represents a growing proportion of the workforce that is ineligible to receive benefits. Many people also assume that most of the jobs created over the past 10 years have been low-paying service-industry jobs, despite evidence that many of the jobs created have been well-paying. Scepticism about the worth of economic indicators is also linked to Canadians' increasing distrust of government and elites. Our qualitative findings suggest that many Canadians feel that economic indicators are manipulated by governments with a goal of maintaining the socio-economic status quo.

Both focus group and survey research also suggest that Canadians perceive the fruits of Canada's recent positive economic performance to be unevenly distributed. Focus group participants say the uneven distribution is masked by most popular indicators, particularly GDP growth rates. As Chart 4 clearly demonstrates, these concerns are related to a real and steep rise in income inequality in the latter part of the decade.

In the mid- to late 1990s, Canadians had no difficulty reconciling positive economic indicators with the view that most Canadians were no better or worse off than before. The explanation was that the new wealth created in the 1990s tended to flow into the hands of relatively few people while the majority saw their incomes stagnate. To some extent those feelings are corroborated by the evidence (Chart 4). Moreover, many Canadians felt that while cuts to the social safety net had allowed Canadian governments to improve their fiscal situation and bolster Canada's international competitiveness, they had hurt the average family. This helps to explain why broader perceptual indicators of social well-being remained stable or even decreased during the 1990s despite objective indicators of positive economic performance. Our most recent survey evidence shows that this has changed, with most Canadians now agreeing that their economic circumstances are better.

It will be helpful to review our examination of the interplay between the official and perceived economy in the 1990s by looking at three broad phases — the early, middle and late 1990s. For this we return to Charts 1, 2, 5 and 6.

The Early 1990s: Through a Glass Darkly

The decade began with the country sliding into what was an unusually deep and protracted recession. Unemployment reached well into double digits (Chart 1) and there was huge downside adjustment, first in the private sector and then in the public sector. The economy contracted 3 percent (Chart 2). Interest rates were relatively high and public finances reached such a desperate state that by the mid-1990s there was talk of IMF intervention and *Wall Street Journal* references likening Canadian public finances to those of a "banana republic." Real per capita disposable income declined until past mid-decade even while productivity increased, albeit slowly.

The cumulative weight of this grim picture produced a sense of gloom and anxiety in the Canadian public, with a stunning two-thirds of Canadians agreeing with the bleak proposition that they had lost control of their economic future (Chart 6) and under one-quarter feeling comfortable disagreeing. Similar numbers expressed anxiety over their personal risk of job loss. All in all, the first third of the decade concluded with Canadians' views on the economy under a cloud of gloom bordering on despair.

The Mid-1990s: Insecurity Unhinged

Towards the middle part of the decade the economy had climbed out of recession and was demonstrating consistent albeit rather tepid growth (Chart 2). Canada putatively hit the "fiscal wall" in 1995, and the crushing combination of huge public deficit and debt, record-high tax levels and a sector-limited recovery led most Canadians to discount any claims of recovery by the official economy. This inertia of public despair and anxiety continued well into 1997 (Chart 6), even as the economy continued to recover; job creation burgeoned and public deficits were largely arrested and eliminated. This led us to question why, if GDP was up, Canadians were so down.

By 1997-98 public confidence was unhinged and we witnessed wild fluctuations in people's sense of job security and broader economic security (Charts 5 and 6). There was a tendency to largely discount government claims of fiscal progress, although public concerns with debt and deficit did begin to abate. Concern about public finances had gone from a strong plurality holding the view that the deficit was mostly a "manufactured" issue at the outset of the 1990s to a pinnacle of public concern by mid-decade.[10]

From a qualitative perspective, many Canadians saw (or experienced) the employment losses of the first third of the decade as profound and permanent and the gains of the middle third as selective and volatile. For many, there was a virtual collision between the conclusion to the "old economy" and the awkward, first steps into the new, which in part explains the unhinging discussed above. Compounding the impact of this collision was the speed at which it took place and the amount of "traffic" involved. Coinciding with the emergence of new economic "realities" were the ground-level impacts of government retrenchment and broader institutional and societal shifts. These profoundly inter-related, dynamic forces challenged Canadians' resilience. In a sense, a great number of Canadians realized that they could not cling to what they had known (because it was gone) and had yet to fix in their minds what the future would hold.

The Close of One Century and Opening of Another: Fluxophilia and the New Economy

However, as the 1990s closed and the new century opened, Canadians could no longer ignore the sustained strong performance of the Canadian economy. Aggregate unemployment continued to drop dramatically (Chart 1), GDP continued to grow, and the Canadian economy began to rival and even surpass the American juggernaut, which had left most advanced Western economies in its dust throughout the 1990s. The yawning productivity and standard-of-living gap between Canada and the United States was stabilized and there was some evidence that the Canadian economy was beginning to narrow the American advantage. Moreover, interest rates remained low and real per capita disposable income was rising. While the common perception may be that the enfeebled Canadian dollar is not part of our rosy economic picture, the low dollar has in fact contributed to this success.

Perhaps even more pointedly, the state of Canadian public finances had been dramatically reversed. Record deficits were being replaced by large surpluses at the senior levels of government. This reversal is important for two reasons. First, our research, even up to 1997 and 1998, showed that most Canadians still believed the rate of growth of the public debt was accelerating. Second, and more importantly, our multivariate analysis of attitudes towards government (expectations, trust, appropriate expenditure levels) showed that concern over public finances explained as much and possibly more of the observed variance than any other single factor (including perceptions of the broader economy) (EKOS Research Associates 1995). Canada had magically transformed itself from a banana republic into a northern tiger, leading growth in the G8 and with sound public finances and the lowest unemployment rates in well over a decade. All of this occurred against a backdrop of an almost miraculous new global economy that appeared poised to repeal the laws of business cycles and to continue with unabated growth, floated on the magic carpet of globalization, the electronic revolution and exotic new biotechnologies.

Synthesis

How does this brave new economy appear through the prism of public attitudes? The most recent data suggest that the public has indeed registered the official success of the economy, although there are entrenched divisions across class lines as to the extent of this success. *Fear of job loss* is well down and *sense of loss of control* has been virtually halved from its mid-1990s apex. It must be noted that economic insecurity is still fairly volatile and confidence levels are not firmly entrenched, particularly amongst certain segments of Canadian society. Our US-Canada comparative survey shows that although the incidence of Canadians believing they had lost all control of their economic future was well down, it was twice as high as that among Americans in 1999. In EKOS's most recent soundings, however, Canadian insecurity continued to decline while American insecurity rose almost 10 percentage points on our *loss of control* indicator (Chart 10).[11]

There is also a sense that economic polarization has not decreased as the economy has rebounded and that, in fact, a widening and hardening gap between rich and poor is a permanent feature of the new economy, part of the price that must be paid for negotiating a successful strategy to deal with globalization.[12] It is, however, instructive to note that while the majority of Canadians believe poverty is growing and the gap between rich and poor is widening, the size of this majority has shrunk over the past two years.

The more impressive evidence is, however, the breadth of Canadian confidence in the economy. In late 1997 only slightly more Canadians believed the economy was better compared to five years previously than believed it was worse (Table 1), but in May 2000 the better-to-worse ratio had risen t nearly 3:1.[13] The future looked even brighte for the majority of Canadians, with only single-digit percentages now characterizin themselves as pessimistic and close to four i five declaring themselves optimistic abou their personal futures (Chart 11).

Meanwhile, we have seen a dramati reversal in attitudes towards globalizatio technology and trade liberalization. In th early 1990s most Canadians were opposed t NAFTA, almost none had even heard of th Internet and new technology was associate more with risk than with opportunity. I early 2000 globalization was seen in deci sively positive terms, the Internet was see as the most powerful agent of positive chang in the lives of the over 60 percent o Canadians who were online, and further trad liberalization was supported by the clea majority of Canadians. Only 4 percent o Canadians believed that change was mostl "a bad thing" while 66 percent thought i was mostly a "good thing" (30 percent were indifferent or did not know) (EKOS Researc Associates 2000*a*).

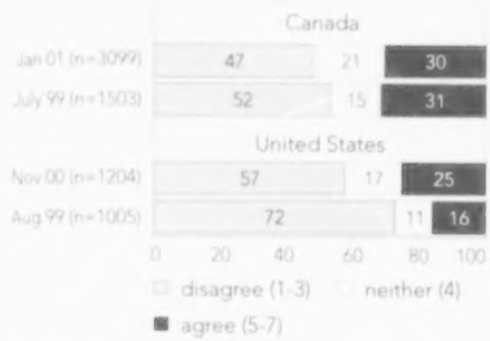
Canadians have emerged from the turbulence and insecurity of the 1990s with a fundamentally different outlook on the economy. They have moved from "future shock" to what we call "fluxophilia" (love of change). This transformation may represent the emergence of a new postmodern personality. It may be as significant as the shift in worldview and values that accompanied the transformatio from mercantilism to industrialism (althoug compressed into a tiny fraction of time com pared to that great transition).

All of this suggests that the tradition al relationships between perceptions of th economy and attitudes towards governmen

CHART 10

Tracking Economic Insecurity

"I feel I have lost all control over my economic future."



Source: Rethinking Government, EKOS Research Associates Inc., US Surveys

and society may be undergoing a historical transformation beyond the usual fluctuations of the business cycle. Within this historical cauldron, equally profound transformations in the role of the State and broader institutions are taking place. This sets the stage for the final questions of our discussion — how do citizens weigh and balance economic and social well-being, and how do economic perceptions influence attitudes towards the redistributive role of the State?

ECONOMY FOR WHAT? THE PUBLIC BALANCE OF ECONOMIC AND SOCIAL WELL-BEING

There is a vast philosophical and social science literature on the notion of well-being. Our intention is to bypass these intellectual views and assess public impressions of the relative importance of economic and social well-being. In the public consciousness, economic well-being refers to the amount and security of one's income/wealth set against the costs of necessities and luxuries. Social well-being is a more complex and elusive concept; for most people the notion of overall quality of life, both individual and collective, would come close to the definition of social well-being. Our research indicates that members of the public draw a clear distinction between the economic and social realms.

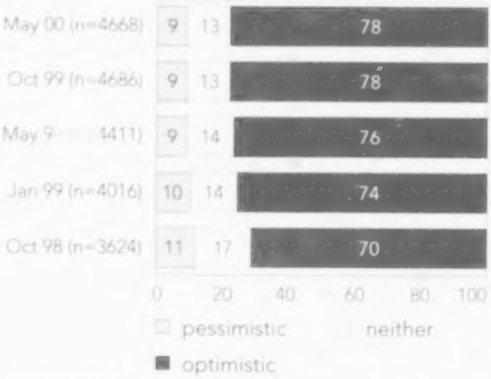
Quality of Life Versus Standard of Living: Dominance of the Social Realm

As noted above, our research has revealed a profound gap between the resonance of "standard of living" and that of "quality of life." In fact, this gap is at the essence of the conflict between Canadians' views of economic policy and indicators such as productivity growth. In what we have labelled the "Bay Street variant," productivity is primarily linked to improving the material standard of living and involves a relatively small tool kit of solutions (chiefly

CHART 11

Optimism

"Would you describe yourself as pessimistic or optimistic about your personal future?"



Source: CIO Government Communications Surveys; EKOS Research Associates Inc.

CHART 10
Tracking Economic Insecurity
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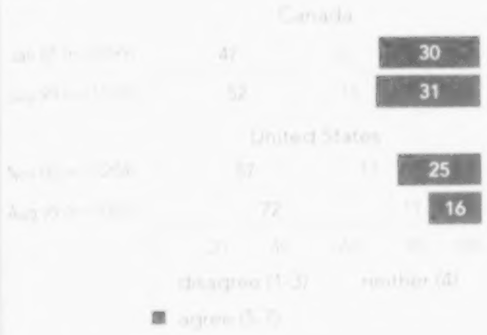

Source: [illegible]

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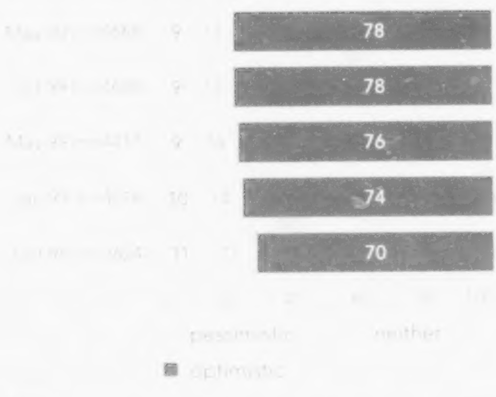


Source: [illegible]

tax cuts and minimal government) (EKOS Research Associates 1999). Formulated in these narrow, economistic terms, the issue finds little resonance with Canadians. In the people's variant of this agenda, or what we call the "Main Street variant," the issue is constructed around productivity for quality of life. This objective brings into play a much expanded tool kit, which, while not excluding tax cuts, orders and clusters priorities in a more balanced manner, with the emphasis on human capital (e.g., health, education, skills, kids).

As discussed in note 4, our focus-group participants had a great deal of fluency in these issues and had no trouble discussing standard of living and quality of life. Most described standard of living as measurable in income/assets: "It's about how much money you have." They saw quality of life as a much broader concept, encompassing a whole range of potential factors depending on individual preferences and motivations.

The connection among macroeconomic performance, standard of living and quality of life was much debated in our focus groups held in the early part of 1999. For many, the extent of the connection for "average people" like them was determined by government action (i.e., how it distributes economic benefits throughout society). All participants believed, for example, that it is quite possible for an economy to grow while most people see their standard of living decline if the "rich are allowed to keep all the profits." Most participants believed this may well be what has happened in Canada. The idea of the rising tide lifting all (or at least most) boats was seen as theoretically plausible but did not resonate: "Not everyone has the same chances to benefit; some boats are leaky."

Moving Beyond the Dualism of Social or Economic Agenda: The Emerging Humanomic Ethic

Given the two competing models of Bay Street and Main Street, the majority of Canadians would line up behind Main Street on this complex issue. The preferred goal for Canada in 2010 is to have the "best quality of life in the world" (Chart 12). It is worth noting that achieving the highest standard of living is at the bottom of the list. Indeed, the top part of the chart is dominated by "softer" goals and the bottom by harder, fiscal goals. It is not that people do not want more money — they clearly do — but that they do not want to define themselves or the society they pass on to the next generation in purely pecuniary terms. It is also worth noting that Canadians are resistant to a purely idealistic-humanistic societal goal. The *bridging* of social and economic concerns can transcend these false dichotomies.

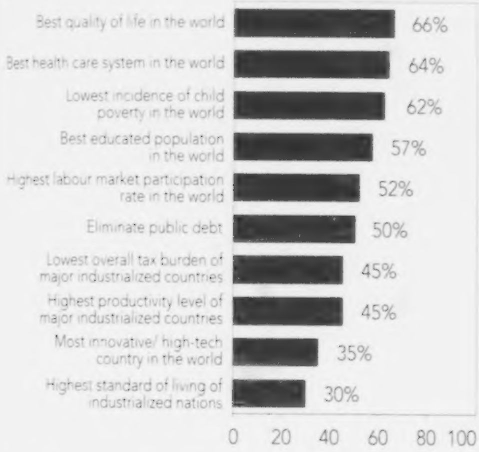
Canadians do not equate quality of life with standard of living. Quality of life is linked to human investment priorities; for example, there is a strong link between a healthy population and quality of life. It should also be noted that there is a strong positive association between perceived quality of life and income (Chart 13). It is remarkable that in research carried out by EKOS this strong linear relationship seems to disappear and even reverses itself after annual income exceeds $150,000.[14] This implies profound questions about the ideal distribution of wealth in society.

There is also an expressed desire to explicitly link social and economic policies, which are now broadly seen to have complementary rather than competing agendas. In evaluating the current emphasis of

CHART 12

Preferred Goals for Federal Government

"If you were Prime Minister for a day, and had to pick an overall national goal for Canada to achieve by the year 2010, which of the following would you choose?"



Note: Presented in series of random, paired choices. Percentages indicate average number of times each option was selected over all others.

Source: Productivity Study, June 1999, EKOS Research Associates Inc.

government, most Canadians see its prevailing focus as economic. However, Canadians register substantial support for a more balanced or social learning agenda.

DO RISING ECONOMIC TIDES BOOST COMPASSIONATE ETHIC? THE IMPACT OF ECONOMIC PERFORMANCE ON ATTITUDES TOWARD REDISTRIBUTION

How does the performance of the economy (both official and perceived) affect attitudes toward redistribution? In narrow terms, this could refer to the emphasis placed on tax burden versus spending priorities, particularly social assistance, regional transfers and unemployment insurance.

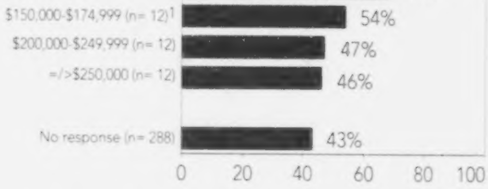
We can consider relationships at both the micro (individual survey respondents) and macro (aggregate) level. The former refers to the relationship between an individual's sense of personal economic security and his or her attitude toward redistribution, the latter to how aggregate societal attitudes vary according to official and perceived ups and downs in the economy. This would be roughly analogous to the distinction between an individual's income and GDP.

In addition to considering the relationship between economic performance and attitudes toward redistribution in the narrower sense, we have argued that it is essential this

CHART 13

Quality of Life

"Thinking about your personal quality of life, do you think it has gotten better or worse in the past 10 years?"



[1] Four persons in the sample had household incomes of between $175,000 and $199,999. All of them said that their personal quality of life had gotten better over the past 10 years. When these responses are added to the previous household income level, 68 percent of respondents (n = 16) with incomes of $150,000 to $199,999 say better.

Source: Productivity Study, 1999, EKOS Research Associates Inc.

problem be cast in a broader historical field. We believe, as do many others, that broader historical shifts are occurring in terms of basic values and orientations to the role of the State, economy and society. These contextual factors are crucial to an understanding of the simpler issue of how economic performance influences attitudes toward redistribution. These revolve around shifts in expectations and value of the State and the marketplace.

The Individual Linkage Between Economic Performance and Attitudes Toward Redistribution

Before considering macro or societal linkages, it is helpful to consider the micro or individual-level linkage between economic performance and attitudes toward redistribution. As noted earlier, we extend the analysis to the broader issue of support for active government. Economic performance is typically thought of as an aggregate attribute of the overall (or regional) economy. Individuals can also demonstrate (and reflect broader) economic "performance" (e.g., their personal income, wealth, productivity, standard of living), but this is an unusual usage of the term. There is, however, a danger in correlating only the aggregate attributes of a society (as, for example, in Chart 12). Although these macro indicators are interesting and useful to examine in the aggregate, this level of analysis can disguise the way these relationships function at the individual level.[15]

In fact, the micro or individual-level relationships between economic performance and attitudes towards redistribution function very differently from relationships at the macro or aggregate societal level. For individuals, there is a striking and predictable linkage between social class and attitudes towards government spending. Economically secure citizens are much less supportive of redistributive functions and more supportive of accelerated tax relief than citizens drawn from economically vulnerable locations within society. This is a reflection of both class values and interests and corresponds roughly to J.K. Galbraith's "culture of contentment" thesis. The economically secure are much less likely to need government support and much more likely to pay more taxes than the economically vulnerable.

If the macro level followed the same logic as the micro level, we would expect that as aggregate perceptions of economic performance (and security) strengthen there will be more secure people and hence less support for active State redistribution. In fact this is not the case. As economic performance has improved, producing more affluent people, the appetite for active government has risen, not declined. Potentially, the discrepancy can be explained by the notion of "relative deprivation." More citizens may be affluent, but the gap between the truly wealthy, who make up a small percentage of the population, and the rest of the population may remain the same or become perceptually even wider. This provides a vivid illustration of aggregation bias and a useful segue to the more relevant topic of the aggregate linkage among societal attitudes toward redistribution, the State and economic performance.

The Macro Linkages

Canadian society has not become more resistant to an active role for the State in social well-being. In fact support for active government investment has risen impressively over the past five years. This conclusion is clearer when scrutinized against the

TABLE 3

Allocation of Budget Surplus

"As you may know, the government in Ottawa has said it will have a budget surplus over the next several years. How would you prefer the federal government make use of this budget surplus?"

	Invest in social programs like health care and education	Reduce the national debt	Reduce the level of taxation across the board
Region			
Atlantic	63	17	18
Quebec	57	18	23
Ontario	52	28	20
Man./Sask.	47	24	27
Alberta	44	34	21
British Columbia	45	29	26
Household Income			
<$20,000	64	18	17
$20,000-$39,999	56	22	21
$40,000-$59,999	48	28	23
$60,000-$79,999	45	32	22
$80,000-$99,999	47	28	24
=>$100,000	41	29	27
"I Feel I Have Lost All Control Over My Economic Future."			
Economically secure	51	28	20
Economically insecure	55	20	24

yardstick of an "active" State investing in social well-being than against the narrower criterion of attitudes toward redistribution.

As Table 4 clearly shows, the percentage of respondents who say that the federal government should "increase" its involvement (summed across a broad range of government activities) has risen progressively (from 39 to 50) since 1995, while the percentage who say that government should "reduce or eliminate" its involvement has declined from 25 to 10. These clear (monotonic) patterns correspond fairly directly to rising confidence in personal and national economic performance.

Redistribution, in the narrower form of passive income supports and regional wealth transfers, has suffered stagnant or declining support over the past 20 years. This decline in support is associated with broad post-material shifts (e.g., from collectivism to individualism), declining trust in and expectations of government, and a growing belief that the parental welfare state had the irony of perpetuating the very problems it sought to solve. The shifting metaphor of the social safety net as a hammock, encouraging indolence and abuse, is evident in current political (and popular) beliefs.

Less obviously, this decline in support for the progressive redistributive State has not been replaced by the neo-conservative ethic of radical self-reliance, minimal government and trickle-down economics. These approaches have, if anything, been even more decisively eschewed by citizens who seek a more pragmatic and effective strategy for achieving social well-being. This points to the centrality of human capital investment, in concert with explicit attention to fiscal prudence and sound economic management, as the key to securing stable quality of life. When it is cast in these terms, we can see rising support for a "conditionally active" State as the economy strengthens.

To empirically illustrate these arguments, we will conclude by reviewing shifting public values and attitudes

TABLE 4
Future Federal Government Involvement Across All Priorities
"Overall what would you like to see the federal government do in the future?"

	1995	1996	1997	1998	2001
Increase involvement	39%	39%	48%	46%	50%
Maintain involvement	34%	42%	40%	42%	38%
Decrease involvement	18%	13%	9%	9%	8%
Eliminate involvement	7%	7%	2%	2%	2%

Source: Rethinking Government, EKOS Research Associates Inc.

toward the State and redistribution over the past decade. We will review four key indicators:

- changes, over the past several years, in the call for increase/maintenance or decrease/elimination of federal government activities (Table 4; Chart 14);
- public ratings of fiscal and social priorities for the federal government during the 1990s (Chart 15);
- specific reactions to a trickle-down strategy versus increased investment concerning child poverty in light of increased prosperity (Chart 16);
- shifts, over the past several years, in preferred broad role orientations for government (Chart 17).

Conditional Receptivity to New Activism: An Increased or Decreased Role for Government?

Despite deep scepticism about the effectiveness, efficiency and fairness of government, Canadians are now clearly looking for a return to an active agenda. Reduced fears over public finances, growing concerns about the social costs of retrenchment and globalization, and a desire to preserve a unique Canadian identity are all fuelling guarded acceptance of a greater role for governments in general and the federal government in particular. Most recently, rising levels of economic optimism have reinforced this "active shift."

One of the crucial questions here is what is the relative role of the economy in this rise in support for government involvement? Is it reduced fears over public finances, a sense that social needs have worsened or that public largesse is less constrained by economic fears? Our research suggests that all of these factors are at play, and our multivariate models indicate separate effects for each. In the aggregate, however, it appears that economic confidence may be the most crucial factor.

In the past few years we have seen Canadian public opinion stabilize at a consensus that both senior levels of government should increase or maintain their level of involvement across all policy areas (Table 4).[16] In fact, as economic confidence has risen the emphasis on "increase" involvement has continued while that on "eliminate or reduce" involvement has lessened dramatically. In the past when we randomly used the word "spending" instead of "involvement" we achieved the same result.

Chart 14 breaks down the increase/decrease test for health care, education and unemployment. These specific tests focus on both redistribution (unemployment) and broader active investment measures (e.g., health care and education). They also include areas that are seen as worsening (health care) and improving (unemployment). Hence we can roughly test the impact of needs/conditions versus economic performance.

In the case of unemployment (an area of declining need), the incidence of "increase" dropped by 10 percentage points between 1997 and 2001. It must be noted, however, that the increase figure is still significantly higher in 2001 (at 51 percent) than it was in 1995 (at 40 percent). This suggests that both social conditions and economic performance influence attitudes towards redistribution. In the case of health care, our measures of perceived need show that Canadians do believe needs have risen rapidly since 1995 due to perceived deterioration in the system. However, the incidence of perceived deterioration, while still high, has actually been dropping significantly over the past year. Meanwhile, support for increased involvement continues to rise. Once again, this suggests that both need and economic performance are important but that the economy may be a more significant factor.

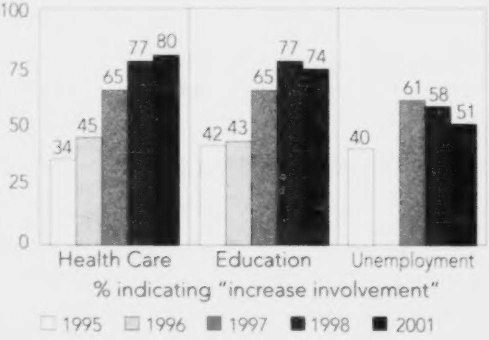
Fiscal Versus Active Priorities

When we asked an *identically* phrased question about what priority the federal government should assign to "level of taxation" against other issues such as unemployment and debt, we found it registered low as a public concern (Chart 15). These patterns have continued into 2001 and are reinforced by other evidence and numerous other tests.

There has been a consistent and progressive pattern, since the mid-1990s, of declining concern with level of taxation (now cited as a priority for government by only 62 percent of Canadians, versus 92 percent for health and 87 percent for child poverty). At the same time, we are finding evidence of rising concern in other areas (Chart 16) and increased receptivity to the need for government to play a role in addressing problems in our collective life. We are also seeing a fairly strong rejection of trickle-down economics.

CHART 14

Future Federal Government Involvement by Priority



Source: Rethinking Government, EKOS Research Associates Inc.

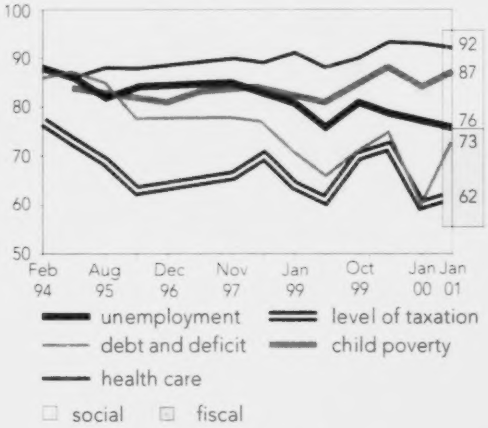
The public's desire for a return to active government is, however, highly conditional. The public resists a return to old-style government and seeks a new approach that stresses targets, results measurement, fiscal discipline and partnerships. The public does not want to reduce the government's role to that of accountant. They want government to help plan, coordinate and protect. Despite their reservations, Canadians still want government to deal with the really big problems that are too onerous for them to manage on their own. Children, the next generation and the widening gap between rich and poor are some of the issues that Canadians are deeply concerned about and do not believe will be adequately managed through tax cuts or minimal government.

Chart 17 shows the most recent role hierarchy for government, noting changes from five years earlier. Canadians espouse a mix of liberal and conservative roles for the

CHART 15

Longer-Term Tracking of Federal Priorities

"Thinking not just of today but over the next five years, what priority should the federal government place on each of the following areas?"



Note: % indicating high priority (5,6, 7 on a 7-point scale) "debt and deficit" replaced by "debt and public finances" in January, 1998.

Source: Children's Survey, January 2000, Rethinking Government, EKOS Research Associates Inc.

federal government. The continued (and recently declining) low ranking of minimal government, in contrast to the high ranking accorded a government role in promoting full employment and tolerance and understanding, reflects a desire for active government.

Note that the public's hierarchy is dominated by active roles. At the bottom of the list is minimal government. Equality roles (based on redistribution) are also rated low, as are values linked to wealth and competitiveness. This indicates the danger of focusing on attitudes towards redistribution as a bellwether for attitudes towards government involvement when discussing Canadians' views of their economic and social well-being.

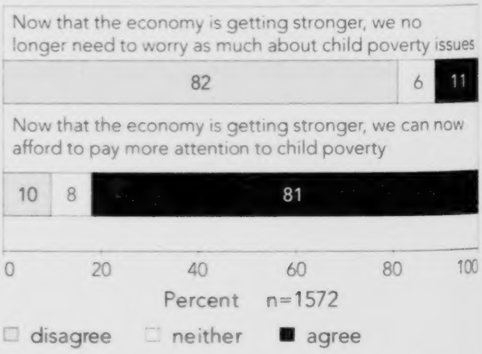
One of our core conclusions is that the economy is very important but that the economy and economic values are seen as instrumental, not terminal, values. Economic values like thrift, productivity and competitiveness are seen as tools for the achievement of higher-order, humanistic goals (e.g., a healthy population, freedom, a clean environment). We believe that the idea of "humanomics" will help to capture this rising sentiment.

"Humanomics"

Although another neologism to describe government is probably not an urgent need, we believe that the label *humanomics* can help describe a growing public desire for an economic approach that recognizes both the centrality of real-world human results (e.g., improved health, skills and quality of life) and human-resource inputs (e.g., improved human-capital investments in health and education) as a means to achieve these results. Humanomics is a blending of social investment and hard economic priorities, with government serving as a strategic broker among citizens, the private sector and institutions. The notion of humanomics can help redefine

CHART 16

Concern for Others

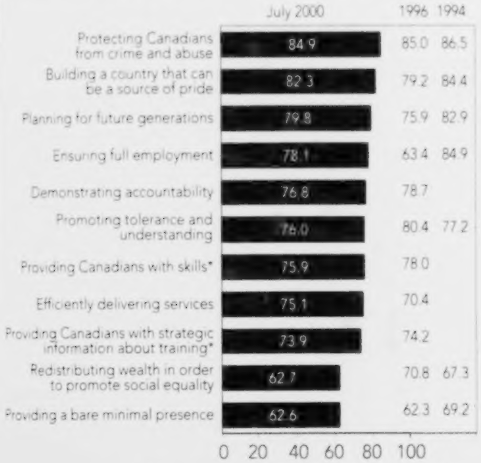


Source: Rethinking Government, Nov. 97 & HRDC Child Poverty Survey, Oct. 97, EKOS Research Associates Inc.

CHART 17

Tracking Future Roles for Federal Government

"For each of the following, I would like you to rate how appropriate you think that each would be as a future role for the federal government."



Mean score on a 100- point scale where 100 indicafes "extremely appropriate"

n= 1505; *½ sample

Source: Rethinking Government, July 2000, EKOS Research Associates Inc.

the relationship between economic policy and social policy as components of an overall plan to increase opportunity and reduce economic risks, rather than as competitors for scarce societal resources. Citizens believe that humanism and economics can be synthesized to transcend some of the excesses and divisions that have characterized the traditional left-right focus. We believe the notion of humanomics can also help solve the paradox of how it can be "the economy, stupid!" when all of the government's priorities and top-rated values are humanistic concerns.

Despite the allure of a new humanomic State, deep divisions underlie the potential consensus for such a model. The rapid social, economic and cultural changes of the late 20th century have fostered the emergence of an incipient underclass in Canada, along with deep disagreements amongst the economically comfortable classes.

This analysis suggests that the ongoing fluctuations in the economy will continue to have a profound impact on the debate, although that impact will be less predictable in future. The recent federal election was probably the first campaign in what will be an intense "vision" war to rebalance the roles of the economy, society and the State. Although the performance of the economy will continue to strongly influence the outcome, there are reasons to believe that a less deferential, more sophisticated postmodern citizenry will ultimately demand that it be given the final say.

NOTES

The core conclusions in this article are based in part on the thesis developed in Graves (1999). Although as the author I am ultimately responsible for any errors, I share any credit with a number of colleagues. At EKOS, Andrew Sullivan and Sheila Redmond were especially helpful in assembling the literature and background analysis. Christian Boucher, Norm Leckie, Manon DesGroseilliers and Patrick Beauchamp all provided additional useful input. Alfred MacLeod bravely presented a rough draft to the initial authors' symposium, at which point we received helpful feedback from other participants and from the editors. Richard Jenkins provided very insightful commentary as the discussant, for which I am grateful. Finally, I thank the hundreds of thousands of Canadians who patiently endured our surveys and focus-group sessions during the 1990s.

CHART 15
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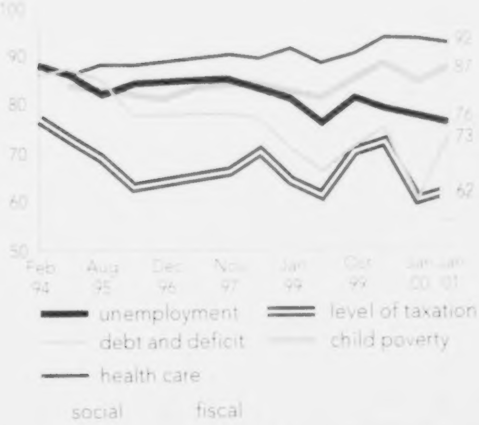

Note: % indicating high priority (5,6, 7 on a 7-point scale) "debt and deficit" replaced by "debt and public finances" in January, 1998

Source: Children's Survey, January 2000, Rethinking Government, EKOS Research Associates Inc

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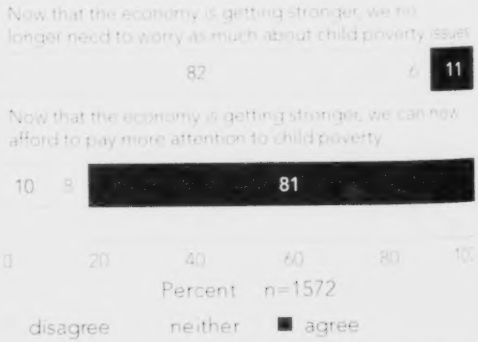
One of our core conclusions is that the economy is very important but that the economy and economic values are seen as instrumental, not terminal, values. Economic values like thrift, productivity and competitiveness are seen as tools for the achievement of higher-order, humanistic goals (e.g., a healthy population, freedom, a clean environment). We believe that the idea of "humanomics" will help to capture this rising sentiment.

"Humanomics"

Although another neologism to describe government is probably not an urgent need, we believe that the label *humanomics* can help describe a growing public desire for an economic approach that recognizes both the centrality of real-world human results (e.g., improved health, skills and quality of life) and human-resource inputs (e.g., improved human-capital investments in health and education) as a means to achieve these results. Humanomics is a blending of social investment and hard economic priorities, with government serving as a strategic broker among citizens, the private sector and institutions. The notion of humanomics can help redefine

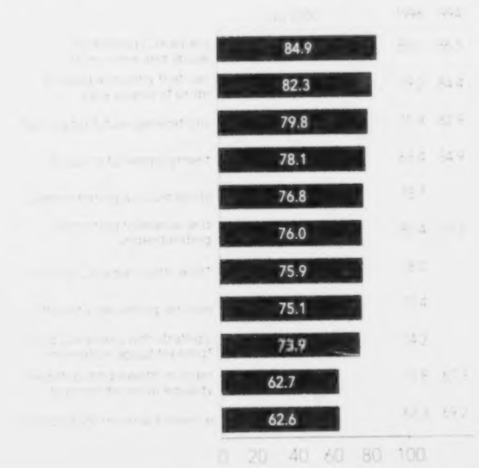
CHART 16
Concern for Others



Source: Rethinking Government, Nov. 97 & HRDC Chil Poverty Survey, Oct. 97, EKOS Research Associates Inc

CHART 17
Tracking Future Roles for Federal Government

"For each of the following, I would like you to rate how appropriate you think that each would be as a future role for the federal government."



Mean score on a 100- point scale where 100 indicates "extremely appropriate"

n= 1505; *½ sample

Source: Rethinking Government, July 2000, EKOS Research Associates Inc.

the relationship between economic policy and social policy as components of an overall plan to increase opportunity and reduce economic risks, rather than as competitors for scarce societal resources. Citizens believe that humanism and economics can be synthesized to transcend some of the excesses and divisions that have characterized the traditional left-right focus. We believe the notion of humanomics can also help solve the paradox of how it can be "the economy, stupid!" when all of the government's priorities and top-rated values are humanistic concerns.

Despite the allure of a new humanomic State, deep divisions underlie the potential consensus for such a model. The rapid social, economic and cultural changes of the late 20th century have fostered the emergence of an incipient underclass in Canada, along with deep disagreements amongst the economically comfortable classes.

This analysis suggests that the ongoing fluctuations in the economy will continue to have a profound impact on the debate, although that impact will be less predictable in future. The recent federal election was probably the first campaign in what will be an intense "vision" war to rebalance the roles of the economy, society and the State. Although the performance of the economy will continue to strongly influence the outcome, there are reasons to believe that a less deferential, more sophisticated postmodern citizenry will ultimately demand that it be given the final say.

NOTES

The core conclusions in this article are based in part on the thesis developed in Graves (1999). Although as the author I am ultimately responsible for any errors, I share any credit with a number of colleagues. At EKOS, Andrew Sullivan and Sheila Redmond were especially helpful in assembling the literature and background analysis. Christian Boucher, Norm Leckie, Manon DesGroseilliers and Patrick Beauchamp all provided additional useful input. Alfred MacLeod bravely presented a rough draft to the initial authors' symposium, at which point we received helpful feedback from other participants and from the editors. Richard Jenkins provided very insightful commentary as the discussant, for which I am grateful. Finally, I thank the hundreds of thousands of Canadians who patiently endured our surveys and focus-group sessions during the 1990s.

1 Page and Shapiro (1992) argue that public opinion varies in regular, predictable ways. This view is not without its detractors, who argue that the fit between objective and subjective economic variables is less reliable than commonly assumed. See, for example, the articles in Clark et al. (1992*a*).

2 This does not necessarily indicate that the more highly educated members of a society always respond to economic indicators in an objective fashion. For example, Krause (1997) questions the use of aggregated public opinion data to determine relationships between the economy and economic expectations — that is, personal financial and/or sociotropic expectations concerning the economy. When disaggregated, the data show that those with high school education or less were uninfluenced by "expectational" cycles — that is, their personal financial expectations mirrored actual economic conditions — whereas among those with at least one undergraduate degree there was a difference between real economic conditions and personal and sociotropic financial expectations. This finding is consistent across virtually all of our indicators of economic performance, optimism and security, with more affluent Canadians as well as those with higher levels of education declaring themselves to be more bullish not only about their own situations but also about the state of the country, its finances and its future prospects. It should be noted that Krause looks at disaggregation by education level only.

3 This is supported by EKOS's *Rethinking Government* series.

4 In the qualitative component of EKOS Research Associates (1999), focus-group participants were asked whether they discerned a difference between "standard of living" and "quality of life." Consistent with the quantitative findings, they saw quality of life as far higher in priority and encompassing a host of factors including standard of living, emotional, physical and spiritual well-being, a clean environment and active government supports.

5 There appears to be a threshold effect in the relationship between social variables and economic growth. In underdeveloped countries an increase in economic growth is matched by a dramatic rise in social indicators such as birth rate and employment, whereas in developed countries a similar increase in economic growth is not matched by a comparable jump in social indicators. One can extrapolate that in a functioning democracy the public takes high growth rates for granted in assessing quality of life and therefore, after a "bad economic spell," sees conditions as merely returning to expected levels. See Krause (1997) and Fedderke and Klitgaard (1998).

6 Social indicators are broadly understood to include life expectancy, physician-to-population ratio, availability of education, suicide and homicide rates, energy consumption, etc. There are suggestions that a web of associations amongst social indicators might play a role in economic growth, but there is little theoretical understanding of this role. Most social indicators are proxies for difficult-to-measure attributes. They seem to be more consistently and strongly associated with level of change than with rate of change in per capita GDP. It may well be that the rate of change in GDP and other objective economic indicators have little bearing on changes in public opinion on social issues (cultural indicators), as changes in these areas are caused by other factors not strictly related to economic indicators. Therefore a lag between an improved economy and public perception of improving social conditions or social variables is not all that surprising. See Fedderke and Klitgaard (1998).

7 The more influential literature in this area includes Nye, Zelikow and King (1997), Inglehart (1990), Nevitte (1996) and Giddens (1998).

8 While this clear shift in preference towards active measures is evident across many areas of social policy, it is particularly marked in the field of labour markets. After extensively tracking Canadian attitudes towards Employment Insurance (and its predecessor, Unemployment Insurance) throughout the 1990s, we now find a 20 percent advantage for those who believe EI should act as a springboard for the unemployed to return to work over those who believe it should be used, for instance, to stabilize the economy during periods of recession. See EKOS Research Associates (2000*a*).

9 One might speculate that the lag is indicative of a transition period in the learning processes of a public embarking on a positive relationship with globalization and the new economy, equivalent to that in emerging marketplace economies. The evidence in this article is for the existence of this lag and the emergence of a new way of looking at the economy and its interplay with social factors. Anderson and O'Connor (2000) describe the learning process concerning economic indicators that took place during the first five years of East Germany's marketplace economy after destruction of the Berlin Wall and reunification with West Germany, with East Germans' perceptions of the economy gradually becoming aligned with the objective economy.

10 The February 1994 issue of *Rethinking Government* reported that 47 percent of Canadians agreed that "recent concern about the deficit was manufactured by large businesses and wealthy Canadians" and just 27 percent disagreed.

11 This finding supports the findings of the Conference Board's Consumer Confidence Index referred to earlier. See Conference Board (2001).

12 While in 1996 some 81 percent of Canadians were worried Canada was moving "increasingly to a society of haves and have-nots," by July 2000 the figure had stabilized at 75 percent. In related qualitative research conducted as a component of the *Rethinking Government* studies, participants viewed this phenomenon with a sense of resignation, with a disenfranchised underclass as the unfortunate by-product of international competitiveness.

13 These findings are explored in depth in EKOS Research Associates (2000*b*). However, it should be noted that this information was gathered before news of the current slowdown in the United States broke.

14 While the number reporting that their quality of life has improved over a 10-year period rises with income, this trend levels off and then in fact reverses at $150,000 per annum. See EKOS Research Associates (1999).

15 The problem of potential discrepancies between correlating aggregate and individual-level data is discussed in the literature under the rubric of aggregation bias (either "ecological" or "psychological fallacies").

16 Respondents were asked to indicate whether the federal government (and the provincial government, separately) should "increase," "maintain," "reduce" or "eliminate" its involvement in a series of 20 different policy areas. The findings discussed here are based on the aggregate responses of respondents across all individual policy areas explored in the question.

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Public Policy, Economic Performance and Social Progress

Monetary Policy and the Economic Well-Being of Canadians

Paul Jenkins and Brian O'Reilly

> *People must perceive real costs in order to reduce them. Hence, policies that impede the accurate perception of real costs are ipso facto inimical to growth. Inflation is the most obvious, probably the most pervasive, and almost certainly the most noxious of such policies... The most serious cost of inflation is the blurring of economic agents' perceptions of relative prices.*[1]

INTRODUCTION

Monetary policy in Canada, as in many other industrial countries, has been focused on achieving some form of price stability.[2] After the move to a flexible exchange rate regime in May 1970, various approaches to establishing a nominal anchor to achieve inflation control in Canada were tried by the Bank of Canada. These initiatives occurred in the context of an inflation that began to accelerate in the second half of the 1960s and reached the highest rates experienced in some two decades in the 1970s and early 1980s.

In the second half of the 1970s, target ranges for growth in the money supply were used as the nominal anchor. They were abandoned in the early 1980s because the relation being used became unstable with innovations in financial markets. Subsequently, an eclectic approach, focusing on adjusting to shocks partly via interest rate movements and partly via exchange rate movements, was followed. However, at the end of the 1980s there was still uncertainty as to what policy-makers meant when they talked about achieving price stability and the benefits that it would bring.

In February 1991, the Government of Canada and the Bank of Canada jointly announced a set of inflation-reduction targets for Canada culminating in a target of 2 percent by end 1995 (with bands of +/- 1 percent around it). The current range of 1 to 3 percent was extended twice, in late 1993 (to cover the three-year period starting the end of 1995) and early 1998. The extensions reflected the fact that both the government and the Bank believed that more experience with a low inflation environment was needed before a decision could be made on a long-run target for monetary policy. The current agreement continues until the end of 2001.

In addressing the contribution of monetary policy to the economic well-being of Canadians in the 1990s, this paper focuses on two elements: (1) the introduction of the inflation targets along with the associated changes in the framework for the conduct of monetary policy, and (2) the performance of the Canadian economy, especially once fiscal and monetary policy became mutually reinforcing. It starts with a brief review of why central banks around the world have adopted policies aimed at achieving and maintaining price stability, and what are the current issues around the choice of a target, or optimal, rate of inflation.

The paper then moves into the contribution of monetary policy in Canada to the economic well-being of Canadians. Here, the discussion is divided into two parts. First, we review the changes that have occurred in developing a coherent monetary policy framework in Canada anchored to our explicit inflation-control targets introduced in 1991. Second, we present the accumulation of evidence supporting the view that Canada's low and stable inflation environment established in the 1990s began to show tangible benefits as we progressed through the decade.

In this context, we argue that the shift in fiscal policy, put in place by the mid-1990s, to eliminate deficits and reduce the ratio of public debt to the size of our economy led to declines in risk premiums and to levels of interest rates consistent with our low inflation performance. The rise in national savings and associated declines in real interest rates have encouraged a significant pick-up in investment in equipment and technology, which were essential for the rise in productivity we have begun to see lately.

WHY FOCUS ON PRICE STABILITY?[3]

Over the period from the mid-1950s until the mid-1960s, Canada experienced a relatively low rate of inflation, between 1 and 2 percent year-to-year growth in the Consumer Price Index (CPI), with no systematic tendency for it to move higher or lower. In the 1970s and early 1980s, inflation moved much higher, reaching 10 percent or more at times, before settling down to 4 percent for a good part of the 1980s. It started to move up again in the late 1980s and early 1990s as excess demand pressures again began to emerge.

Canada's inflation experience in the post-World War II period was not unique and its monetary policy formulation reflected the consensus view of the public and the economics profession as to what could be done with monetary policy. Some 30-odd years ago there was a widespread belief that policy-makers could fine-tune the monetary and fiscal policy levers in order to dampen business cycles.

Essentially, two developments supported this belief: (1) the availability o macroeconometric models that were thought at the time to be able to predict reasonably well the impact on the economy of changes in fiscal and monetary policy, and (2) th Samuelson-Solow argument that there was a exploitable long-run Phillips-curve trade-off In the late 1960s and early 1970s, these idea had some influence on both the research pro gram and policy formulation process at th

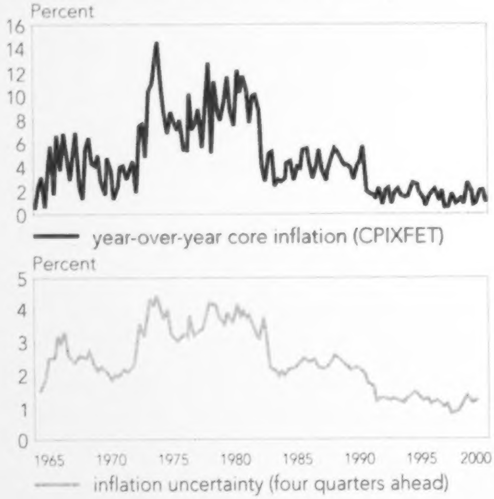
Bank of Canada. (See Thiessen 2000/01 for a more in-depth discussion of this period.)

The experience of the 1970s and developments in the economics literature made it clear that there were at least four major difficulties with having a monetary policy directed towards fine-tuning the economy. First, the long and variable lags between a monetary policy action and its result meant that action to stimulate the economy, for example, could be having its effect just as the economy was reaching full capacity, leading to overheating and inflation. Second, and equally important, there was no long-run trade-off between inflation and unemployment once the adjustment in inflation expectations was taken into account. Third, a monetary authority with an inflationary bias could not consistently count on surprises to stimulate the economy since people in the economy would eventually anticipate such a response and quickly raise their inflation expectations (time inconsistency). Fourth, there was an overly optimistic view of potential output and productivity growth.

Ultimately, price stability in the form of low and stable inflation came to be seen as the contribution monetary policy could make to support a more efficient functioning of the economic system. The economy would then be able to achieve the highest standard of living possible given its social and institutional arrangements. This choice came out of the broad acceptance that there are costs to inflation, costs which become more evident at higher rates of inflation.

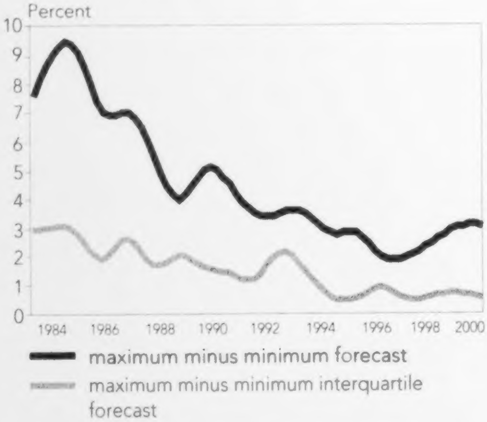
CHART 1

(a) Inflation and Inflation Uncertainty



Source: Crawford and Kasumovich (1996) updated. Inflation uncertainty is measured by the conditional variance of the forecast errors from an ARCH model of inflation. CPIXFET is the CPI less food, energy and the effect of indirect taxes.

(b) Long-Term Dispersion of Inflation Expectations



Source: Stuber (2001). The inflation uncertainty measures are based on the dispersion of forecasts for inflation six to fifteen years ahead by participants in a survey of economists and portfolio managers published by KPMG.

One set of costs arises from the fact that inflation and inflation uncertainty go together (Chart 1). That is, the higher the inflation rate, the more uncertain people are about its future path. As a result, they have trouble determining the "real costs" of taking various types of decisions, especially decisions where the consequences can be long-lasting. Decisions to buy now or to wait, and decisions on what to do to protect wealth or how much to save for future consumption, are more difficult to make with the added uncertainty arising from inflation. (See O'Reilly 1998 for an in-depth review of some of these costs.)

Empirically, it has been difficult to measure the benefits that accrue from an ongoing low and stable rate of inflation and to compare these with the costs of getting inflation down. The reasons include: not having a sufficient number of low-inflation periods, especially periods when low inflation was the clear objective of policy; dealing with the endogeneity of inflation; trying to make inferences about long-run relationships using short-run movements in the data; and trying to see in aggregate data what is often essentially a microeconomic problem — distinguishing between real and nominal price changes. (For more detail, see O'Reilly 1998; Ragan 1998, 2000; Stuber 2001; Temple 2000.)

New techniques are being used to overcome some of the technical questions raised about the earlier empirical work that tried to identify an inflation rate above which inflation and economic activity are negatively related (see Ghosh and Phillips 1998; Khan and Senhadji 2000). Other work looking at inflation and tax interactions suggests that there could be large gains to reducing inflation to zero. (See Feldstein 1999 for papers on various countries; O'Reilly and Levàc 2000 on Canada; Bonato 1998 on New Zealand.)

Given the complexity of these issues, it is likely that the economics literature and the techniques used will continue to evolve in terms of identifying an optimal rate of inflation. But based on the available evidence, some researchers have made the case for choosing one rate over another.

Konieczny (1994) focuses on the role of money as a standard of value analogous to standard measures in other areas. He argues that inflation erodes the role of money as a unit of account, or a monetary standard. This is not allowed to happen in other spheres of activity where much emphasis is placed on having a constant standard. Inflation creates confusion because, while one can recognize that it exists, it may be much more difficult to incorporate the information in formulating and taking decisions. Konieczny uses the true-life example of a plane crashing to demonstrate that even a simple calculation like converting gallons into litres can go wrong. He argues that even more information is required to make forward-looking decisions in a world with inflation. People need to "know the history of the price level as well as the date of the last price sampling" (p. 13).

That this is not easy to do is given some support in work reported in Shafir, Diamond and Tversky (1997). This work finds evidence that, unless questions are framed in a particular way, respondents confuse nominal and real values in their answers. This observation should not be surprising given that nominal values are used in tax and accounting frameworks and in all other market activities, including those affecting savings and investment decisions. Analysis of cross-country survey (some 38 countries leads to the conclusion that the poor are mor likely than the rich to mention inflation as top national concern (Easterly and Fische

2000). While indexation is sometimes proposed as the solution, there is some reluctance to use it (Shiller 1997*b*).[4] Thus researchers who follow Konieczny's line of reasoning argue for zero inflation, or an unchanged price level.

More specific evidence from Canada that even low and steady inflation can eventually have noticeable effects was in the increasing concern shown by Canadians in the last few years about the effect of bracket creep in the personal tax system on their after-tax incomes. This experience clearly indicates that even low and stable inflation, as experienced in the 1990s, can have effects that are noticed within relatively short periods of time. Some of the examples provided in the February 2000 budget documents show that a five-year horizon with inflation as low as 1 1/2 percent is sufficient to shift people into a higher tax bracket even when their real circumstances have not changed.[5] While this particular situation was easily resolved by the introduction of full indexation of the personal tax brackets, most arrangements in the economy are in nominal terms and require people to make decisions after expending time and effort to undertake the information gathering and processing mentioned by Konieczny (1994).

If people can point to examples of the cost of inflation in their daily lives and have a general mistrust of inflation (Easterly and Fischer 2000; Shiller 1997*a*), why is an unchanged price level not the obvious target for monetary policy? Essentially there are four main reasons advanced for having some positive inflation: measurement bias; downward nominal wage rigidity; the zero bound on nominal interest rates; and the fear of entering a deflationary spiral.

Measurement bias has to do with the difficulty of accurately measuring price changes in a market economy where there is ongoing change in product quality and attributes, including services, and the ways in which they are sold. Research suggests that the measurement bias in Canada is small — about a half percentage point per year in the year-to-year growth in the CPI (Crawford and Harrison 1998).

The argument for downward nominal wage rigidity presupposes that workers will resist nominal wage declines other than in exceptional circumstances, such as near-bankruptcy of the company by whom they are employed. Fortin (1996) and Akerlof, Dickens and Perry (1996) argue that downward nominal wage rigidity is a fundamental characteristic of, respectively, the Canadian and US labour markets.[6] As a result, if inflation settles below a certain rate, there would be a permanent increase in unemployment relative to what it would be otherwise. Fortin (1996) suggests that a 2 to 4 percent range for the inflation target in Canada would avoid this problem. There is some empirical work suggesting that downward nominal wage rigidity is an important characteristic of the Canadian economy (Simpson, Cameron and Hum 1998), though other empirical work suggests that it is not (Beaudry and Doyle 2001; Farès and Lemieux 2001; Faruqui 2000; Crawford 2001; Crawford and Harrison 1998; Crawford and Wright 2001). Others have argued that downward nominal wage rigidity is a legacy of the ongoing inflation in the post-World War II period and that such money illusion would not continue to exist in a world of low or no inflation. In any case, the recent experiences of the United States, the United Kingdom and Canada suggest that low inflation can co-exist with low unemployment and high rates of economic activity, all relative to each country's recent historical experience.

The concern about a zero bound on nominal interest rates is based on two facts: (1) people can avoid a negative return by holding cash, and (2) monetary policy contributes to stabilizing the economy by raising or lowering real interest rates. In a world where price stability is defined as either zero or very low inflation, there is the possibility that monetary policy would not be able to lower interest rates enough to contribute to an economic recovery. A broad assessment of the literature suggests that the zero bound is unlikely to prevent a monetary policy with an inflation target from contributing to the stabilization of the economy (Amirault and O'Reilly 2001).

Even though deflation is defined as a sustained decline in the price level, some researchers have argued that a constant price-level target (in combination with the zero bound on the nominal interest rate) could lead to a deflationary spiral. Other researchers have extended this concern to a world where price stability is defined to be a low rate of inflation. However, the real issues centre around the strength with which expectations are anchored on the target for price change and how symmetric the monetary authority is in responding to movements away from it.

Assuming an environment where a considerable amount of credibility is given to the monetary authority's commitment to a price-level target, some researchers have made the point that expectations about inflation would work in such a way as to support achievement of that target. For example, if the price level were to move below its target level, a credible target would lead to expectations of higher inflation in the short run as the price level was brought back to the target level. As a result, the expected real interest rate would decline, leading to increased economic activity. (See Duguay 1994; Coulombe 1998; Wolman 2000.)

CHANGES IN THE FRAMEWORK FOR CANADIAN MONETARY POLICY IN THE 1990s[7]

Throughout the 1990s a number of initiatives were undertaken in Canada to clarify and strengthen the monetary policy framework (see Thiessen 2000). The policy framework includes the goal for monetary policy, the approach to implementation of policy, dealing with uncertainty, and the reporting and accountability arrangements.[8]

The Goal of Monetary Policy

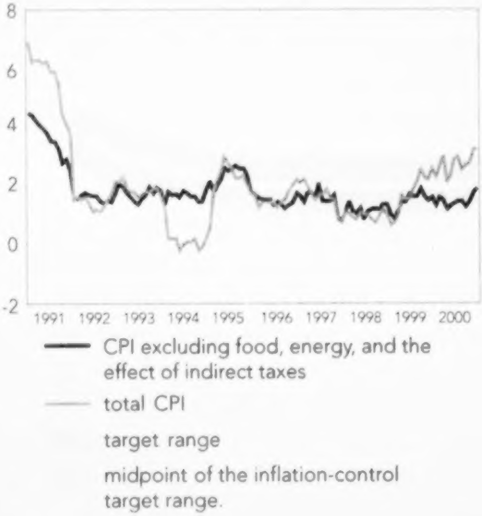
A fundamental change in Canada's monetary policy framework occurred in the 1990s. That change was the introduction of a joint Bank of Canada/Government of Canada statement of explicit inflation-control targets for achieving and maintaining price stability. Even though the Bank had a longstanding commitment to price stability, an explicit definition of this goal had never been given. Indeed, some analyst suggested that there seemed to be a difference of view between the Bank's vision for price stability as enunciated, for example, i John Crow's 1988 Hanson lecture and th expectation of the Department of Finance a shown by the assumptions for inflation i the budget documents at the time. (Se Johnson 1990.) Hence, the joint announc ment of inflation-control targets was major step in clarifying the objective of monetary policy and in providing a nominal anchor for economic decisions.

There have been three joint announcements of the inflation targets thus far: the introduction of inflation-reduction targets in February 1991 with the aim of keeping the year-to-year change in the CPI in a band of 1 to 3 percent (midpoint 2 percent) by the end of 1995; an extension of the 1 to 3 percent band to end 1998 in December 1993; and a further extension, on 24 February 1998, of the existing inflation-control target range to the end of 2001.[9] (See Chart 2.) At the time of the last extension it was agreed that the government and the Bank would decide on the long-run target for monetary policy before the end of 2001.

In preparation for the decision to be taken in 2001, and similar to what took place leading up to the decisions in 1993 and 1998, the Bank organized and hosted a seminar in 2000 where research on relevant issues could be presented and discussed. In addition, interested academics, and staff at the Bank and Department of Finance have ongoing research programs and keep abreast of advances reported in the literature on price stability issues. Research is published in professional publications, conference volumes, technical reports and working papers.

While the goal for the inflation target for monetary policy is determined jointly, the Bank retains sole responsibility for achieving it. To enhance its ability to do so, the Bank undertook various initiatives in the 1990s to make it much clearer to all interested parties how it saw developments in the Canadian economy, and how it was acting to achieve and maintain the goal assigned to it.

CHART 2
Consumer Price Index
Year-over-year percentage change



The Implementation of Monetary Policy

Monetary policy is implemented mainly through changes in short-term interest rates, specifically the Bank Rate, which is the rate of interest that the Bank of Canada charges on overnight loans to financial institutions. A change in the Bank Rate influences other interest rates and the exchange rate, leading to changes in the level of spending and economic activity, which in turn affect inflation over a period of six to eight quarters.

In the early 1990s, the Bank Rate was based on the three-month treasury bill rate and monetary policy operations were focused on both the overnight and treasury bill markets. Starting in 1994, the Bank changed tactics to be more explicit about the range it desired for the overnight interest rate and to allow the three-month rate to respond to market conditions. The Bank's objective in specifying a 50-point target band for the overnight rate was to reduce uncertainty about its intentions, hence improving the transmission of monetary policy actions both to interest rates further out along the yield curve and to the exchange rate.

Further clarity on the Bank's intention was achieved with the announcement in February 1996 that the Bank Rate would establish the upper end of the operating band, and that changes in the operating band would subsequently be accompanied by a press release providing the rationale for them. Since February 1999, with the introduction of the Large Value Transfer System (LVTS), the Bank has targeted the midpoint of the operating band for the overnight rate in its implementation of policy (see Bank of Canada 1999).

Uncertainties

In conducting monetary policy, there are uncertainties of various types that need to be taken into account (see Thiessen 1995). For example, it is difficult to be certain about how actual output compares to what the economy can produce with full, non-inflationary utilization of resources (data uncertainty). Assessment of the type (demand or supply) and nature (persistence) of the shocks that have an impact on the economy must also be made (certainty equivalence). In addition, the responses of key variables to changes in the instrument of monetary policy are not known with certainty (parameter uncertainty). And there is uncertainty about the true model of the economy (model uncertainty). The existence of these, and other, uncertainties underscores the need for a well-specified framework that addresses "what if" questions at every stage of the process. These would include alternative scenarios for the outlook as well as th use of alternative reaction functions.[10]

While these types of uncertainties ar ones that the Bank must contend with as bes it can in conducting monetary policy, the initiatives to increase reporting and accountability discussed below were made to help reduc uncertainties about Bank of Canada behaviour

Reporting and Accountability Arrangements

Complementing the move to a clea target for inflation were measures to enhanc the transparency of the Bank's assessment o the economy and of its operations. In takin these steps, the Bank of Canada is in th company of other central banks around th world in adopting the view that moneta policy can be more effective in supportin good economic performance if there is a clea understanding of objectives, the means fo achieving them and the central bank's assessment of the state of its economy.

Central banks in most major industrial countries now publish in one form o another their views about the outlook fo inflation and output in their economies, an the risks and uncertainties surrounding tha outlook. Given the potential for portfoli adjustments to affect interest (and exchange rates, it is particularly useful if financial market participants and central banks have similar views about the economic situation an the thrust of monetary policy. Transparenc is also important in terms of holding centr banks accountable for their actions.

In terms of Bank of Canada initiativ in the 1990s, the *Monetary Policy Report*, published each May and November since 199 has offered the views of the Governin Council (the Governor, Senior Depu

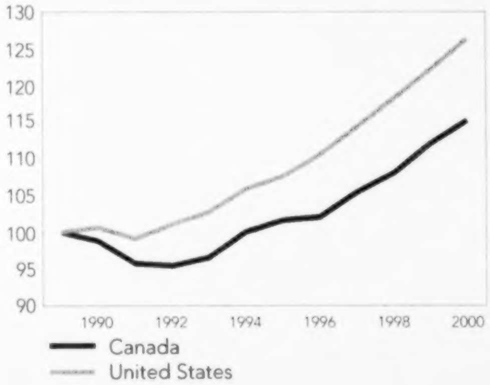
Governor and Deputy Governors) on the outlook for output and inflation over the coming year or so, including a qualitative assessment of the risks and uncertainties. Starting in 2000 the Bank began to provide a semi-annual *Update to the Monetary Policy Report* midway between the issues of the full report. (Previously a commentary on the economy was provided in the *Bank of Canada Review*.) After release of each issue of the *Monetary Policy Report*, senior Bank officials appear before the Finance Committee of the House of Commons to discuss the *Report*. They also offer briefing sessions to a variety of audiences in different regions of the country and in major international financial centres.

More recently the Bank has introduced a series of eight fixed dates for announcing changes to the Bank Rate (see Bank of Canada 2000). On each date the Bank will issue a press release, whether or not there is a change in the Bank Rate, to explain the key factors behind the decision. Fixed dates will reduce uncertainty in financial markets associated with not knowing exactly when the Bank might announce an interest rate change. They should also lead to greater focus on the economic and monetary situation in Canada, put greater emphasis on the medium-term perspective that underlies monetary policy, and add to the Bank's transparency, accountability and ongoing dialogue with the public.

MONETARY POLICY AND THE ECONOMIC WELL-BEING OF CANADIANS IN THE 1990S

This section begins with a brief review of the performance in the 1990s of one widely used, summary measure of economic well-being and of the forces at play in the first half of the 1990s. It then examines the accumulation of evidence supporting the view that the low and stable inflation established in the 1990s began to show tangible benefits in the second half of the decade. A key development was the shift in fiscal policy in the mid-1990s to reverse over 20 years of deficit financing and debt accumulation.

CHART 3
Real GDP Per Capita
1989 = 100



A Summary Measure of Economic Well-Being

While economic well-being has many facets, we focus on real GDP per capita as a summary indicator of what happened to the standard of living of Canadians over the 1990s. Advantages of using this measure are its long time series, easy comprehension and wide use. Other papers in this volume consider the economic well-being of Canadians from alternative perspectives.

As may be seen from Chart 3, real GDP per capita in Canada, using 1989 as a base period to be consistent with other studies, grew sluggishly on average over the 1990s. Taking a longer perspective, the

TABLE 1
Decomposition of Growth in Real GDP Per Capita

	Canada				United States			
	1973-89	1989-2000	1989-95	1995-2000	1973-89	1989- 2000	1989-95	1995-2000
Real GDP per worker	1.0	1.2	1.0	1.4	0.9	1.9	1.2	2.7
Employment/ population	1.1	0.2	-0.7	1.3	1.0	0.3	0.0	0.7
Real GDP per capita	2.1	1.4	0.3	2.7	2.0	2.2	1.2	3.4

Note: Numbers may not add up exactly due to rounding. The periods indicate the base- and end-years for the levels used to calculate the growth rates.

growth in real GDP per capita on average over the period from 1989 to 2000 was two thirds of its approximately 2 percent growth in the 1973 to 1989 period. However, it was higher in the second half of the 1990s than in the first half, averaging above the growth rate over the 1973 to 1989 period.

Compared with the United States, the Canadian economy did not perform as well over the 1990s. Table 1 shows that there is a clear split between the first and second halves of the 1990s in terms of the reasons explaining this difference.

During the first half of the period, the fall in the employment/population ratio accounted for most of the increasing gap in GDP per capita growth with the United States. For a detailed discussion of economic performance in Canada in the first half of the 1990s, see Fortin (1996, 1999), Freedman and Macklem (1998) and Freedman (2001). Fortin (1996) advances the hypothesis that Canada's monetary policy of targeting low rates of inflation was responsible for the weak levels of economic activity in the early 1990s. Freedman and Macklem (1998) challenge Fortin's interpretation, arguing that a combination of factors was responsible for Canada's weak economic performance. Fortin (1999) and Freedman (2001) continue the discussion.

Over the second half of the period, th
US/Canada gap is related to a greater acceler
ation in the growth of labour productivity i
the United States. We argue below that th
surge in investment in machinery and equip
ment that has occurred in Canada since 199
lagging behind the United States by abou
four years, is beginning to show up i
Canadian productivity growth. This surge i
investment has coincided with the improve
ment in our macroeconomic fundamental
which includes both a low and stable inflatio
environment and declining levels of publi
debt relative to the size of our economy.

The Starting Point for the 1990

Canada entered the 1990s with a recor
of persistent and volatile inflation, an accumu
lating public debt and a widening technologi
cal gap with the United States (see Thiesse
2000/01). Moreover, the negative effects
these factors on economic performance we
interrelated. The inflation of the previous tw
decades had left Canadians exposed to incip
ent inflation pressures and distorted relati
price signals, both of which encouraged spe
ulative as opposed to productive investments.
For a good part of the 1970s and 1980s go
ernments acted to protect individuals fro
inflation through indexation, while at the sa
time introducing structural increases in spen

ing premised on faster economic growth than occurred. The net outcome was a deep-seated fiscal deficit and a growing public debt burden (see Dodge 1998).

The relatively high inflation of the 1970s and 1980s led Canadian firms to look for ways to benefit from inflation rather than for ways to improve product design and innovation, cost control and productivity. By the early 1990s, it became clearer to Canadian companies that they had some catching up to do in a world much more open to international competition. However, the sharp drop in the prices of speculative investments and the burden of servicing large debts, as well as declining world commodity prices, made it difficult for them to proceed as quickly as they might have liked. With defaults, restructurings and downsizings, economic activity and unemployment took a long time to recover from the recession at the beginning of the 1990s, and in many instances wages and salaries were frozen or reduced. Despite these factors many Canadian firms undertook restructuring efforts in the 1990s (see Kwan 2000).[12]

In the early 1990s it had also become clear that Canada's public debt was accumulating at an unsustainable rate, leading both foreign and domestic investors to become nervous about holding Canadian government bonds (see Robson and Scarth 1994). This nervousness was componded by the fact that Canada's net foreign indebtedness was also on an upward track as domestic spending was maintained by borrowing from abroad through a current account deficit. The result was significant risk premiums in our interest rates.

Dodge (1998) concluded that Canada had an inappropriate mix of fiscal and monetary policy in the late 1980s/early 1990s. He indicates that a contractionary macro policy was warranted in the late 1980s and that, in the circumstances (an already high public debt relative to the size of the economy and the introduction of the Free Trade Agreement with the United States), it would have been better to have tightened fiscal policy.

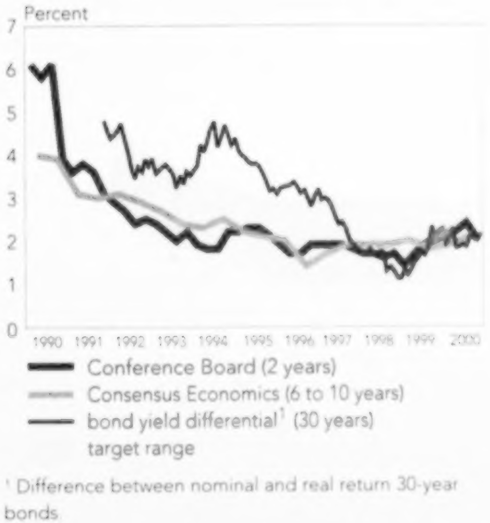
The Contribution of Monetary Policy in the 1990s

In examining the contributions of monetary policy to economic well-being in the 1990s, we start with the importance of economic agents having confidence in what the central bank is doing. Why agents would have such confidence starts with the ability of the monetary authorities to articulate a clear and consistent framework for monetary policy. But the cornerstone of that framework, and therefore of confidence among agents, is the establishment of a low inflation environment and the expectation that such a situation will continue to prevail. In the case of Canadian monetary policy, such confidence would mean that the Bank of Canada had established credibility in the adoption and achievement of its explicit inflation-control targets.

With credibility, inflation expectations become firmly anchored to the inflation-control target. Reduced uncertainty about inflation also makes it less risky to enter into longer nominal contracts, and a credible stable price environment allows longer-term instruments in financial markets to be priced appropriately (e.g., lower risk premiums). In addition, greater certainty about the objectives of Canadian monetary policy reduces the economy's vulnerability to external financial market shocks. Overall, these outcomes should allow Canada to achieve a higher track for investment, productivity and the standard of living.

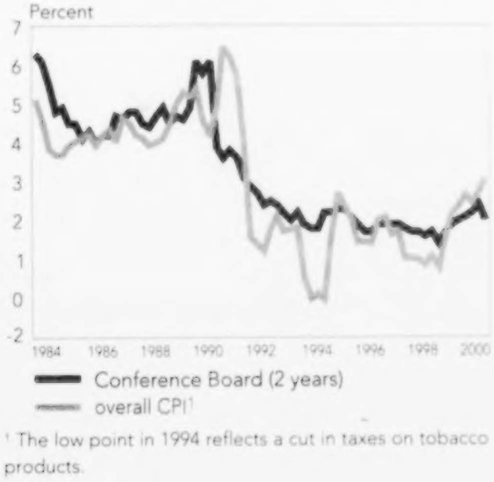
CHART 4

(a) Comparison of Selected Inflation Expectations



¹ Difference between nominal and real return 30-year bonds.

(b) Expected and Observed Inflation Rates



¹ The low point in 1994 reflects a cut in taxes on tobacco products.

However, "a good monetary policy is necessary but not sufficient for good economic outcomes" (Freedman 2001). In the 1990s the key development, over and above low inflation, was the sharp shift in fiscal policy in the middle of the decade to a stance that would generate surpluses and debt reduction.

Below, we present evidence that we have begun to see the payoff from the low and stable inflation environment established in the 1990s.

Inflation and inflation expectations (cred-ibility). Perrier and Amano (2000) note tha various surveys/indicators suggest tha expected inflation stood at about 5 percen in 1990 and was around 2 percent by 1999 Indeed, according to these surveys, for th entire period during which the Bank has hac a target range for inflation, expected inflatior rates have remained within that range Medium-term inflation expectations have also reacted very little to movements in the CPI, suggesting that the targets have helpec to focus expectations on the target rate anc thus enhanced the credibility of monetar policy (Chart 4). Perrier and Amano indicat that most of the studies using these survey have concluded that success in keeping infla-tion within the target range has indeec helped to increase the credibility of Canadiar monetary policy. (See Perrier and Amano fo references.) Such a result is consistent witl what might be expected from a successfu track record (Blinder 2000).

In another study, St-Amant and Tessie (2000) review the recent literature analysin the experience of countries that have adopt ed inflation targets and report on some sim ple statistical tests for determining the lin between the adoption of inflation targets an the credibility of monetary policy. The lite ature survey and empirical results lead S Amant and Tessier to conclude that certa statistical properties of inflation (for exan ple, a reduced effect of shocks on ongoir inflation) may have changed in some cou tries in recent years, and that monetary po cy seems to have become more credible ir

TABLE 2

Selected Indicators Pertaining to Wage Negotiations

Period	Average Life of Wage Settlements (months)	Proportion of Wage Settlements with COLA Clauses (%)	Work Stoppages (percentage of working time lost to strikes)
1978-1990	24.2	23.4	0.23
1991-1995	25.5	14.9	0.06
1996-2000	34.0	10.5	0.09

number of countries, including Canada. However, they caution that the available data do not allow them to state with any certainty that explicit inflation targets have played a significant role in these changes.

It is nevertheless evident that the focus on preserving a low and stable inflation environment has resulted in a substantial reduction in the variability of inflation. The standard deviation of core inflation, the year-to-year change in the CPI excluding food, energy and the effects of indirect taxes, relative to its target has fallen to 0.6 percentage points in the second half of the 1990s from between 2 and 3 percentage points historically.[13] This reduction in inflation variability tied to a low-inflation environment allows people to take a longer view with respect to their planning and to better perceive the trade-offs that they face in their transactions.[14] This in turn leads to a better allocation of economic and financial resources.

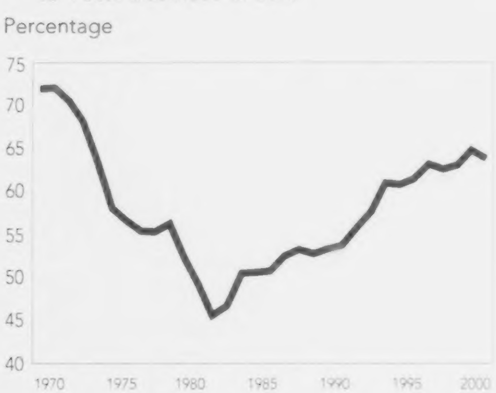
Labour and product markets. Examples of how a more stable price environment allows people to take a longer view on planning can be found in the labour and housing markets. In labour markets, there has been a reduction in person days lost due to strikes, a lengthening of the life of collective wage agreements in Canada and a decline in the number of such agreements containing cost-of-living adjustment (COLA) clauses (Table 2).[15] As to the housing market, the proportion of mortgages with five-year terms is now higher than it was in the mid-1980s, and many financial institutions have been offering 7- to 10-year mortgages (on the former, see Montplaisir 1996/97; Howitt 1997).

For suppliers of goods and services, having a clearer idea of relative price movements should enable them to better judge shifts in market conditions and their ability to pass higher costs on to their clients. Indeed, in a low-inflation environment suppliers can better identify areas where they can make adjustments to contain costs and increase productivity (see Harberger 1998). The apparent reduction in the pass through to consumer prices of the price-level effect of the depreciations of the Canadian dollar in the 1990s is one important example of how a low, stable inflation environment may be changing price-setting behaviour (see Technical Box 2 in the November 2000 *Monetary Policy Report*). Another example would appear to be the low pass through to core CPI from the recent sharp increases in energy prices, although the evidence is more limited on this question.

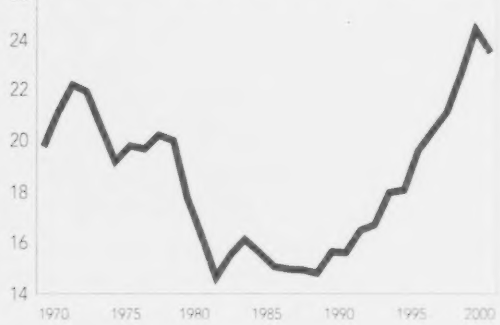
Another possible explanation for a lower pass through of relative price changes in an environment of low and stable inflation

CHART 5

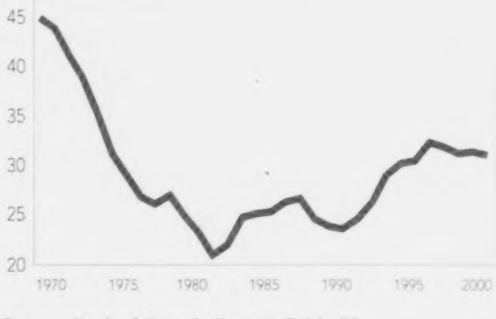
(a) Ratio of Long-Term Business Credit to Total Business Credit



(b) Ratio of Bonds and Debentures to Total Business Credit



(c) Ratio of Equity (and Other) to Total Business Credit



Source: Bank of Canada Review, Table E2.

is that the persistence of inflationary shocks may be reduced (see Taylor 2000 for some empirical evidence). As a result, there is less reason for suppliers of goods and services to change their expectations about inflation, especially the trend rate.

Financial markets. There are various ways in which inflation interacts with the functioning of financial markets. An obvious example is the maturity spectrum on which financial market participants would want to focus their attention. In a period of high and volatile inflation, lenders and borrowers do not want to commit to long-term arrangements. As a result, participants would either switch to short-term arrangements or demand a higher term premium than otherwise. In the early 1980s the Government of Canada had to offer extendible terms to fund its requirements. Another response by financial market participants to high inflation is to focus their attention on particular markets (equities versus bonds, for example). Financial market participants will also be concerned about being the last one out of particular markets in periods when markets are unsettled. As a result, funds are likely to quickly leave countries where there are concerns about macroeconomic policies and be slow to return.

With respect to financial marke activity in Canada, the use of long-term financial instruments by firms fell over th course of the 1970s and recovered as inflation moved down (top panel of Chart 5). I addition to the term for mortgages note above, shifts occurred in the use of market for debt (Miville and Bernier 1999) an equities (see bottom two panels of Char 5).[16] Risk premiums, as reflected in th spread between the returns on 10-year gov

TABLE 3
Selected Indicators of Macroeconomic Activity[1]

Period	Average Annual Growth in Real GDP Per Capita	Average Annual Growth in Employment	Average Unemployment Rate	Average Annual Growth in Output Per Person Hour	Nominal Machinery and Equipment Investment as a Percentage of Nominal GDP
1973-89	2.1	2.3	8.4	1.3	3.6
1989-95	0.3	0.5	10.1	1.2	5.4
1995-00	2.7	2.2	8.3	1.3	7.9
1998	2.4	2.6	8.3	1.0	7.8
1999	3.7	2.8	7.6	1.6	8.6
2000	3.8	2.6	6.8	1.7	9.8

[1] The periods indicate the base- and end-years for the levels used to calculate the growth rates. For level series, like the average unemployment rate, the years correspond to those for growth rates (for 1989-95 inclusive this means 1990-95 inclusive).

ernment bonds in Canada and the United States, moved down as inflation became low and stable and as the fiscal situation improved (see Chart 6). More specifically focusing on the inflation-risk premium, Fung, Mitnick and Remolona (1999) show the inflation-risk premium on Canadian five-year bonds as peaking in 1991 and declining slowly but flattening out at a rate close to that in the United States only around the beginning of 1998 (Chart 5a in their paper).

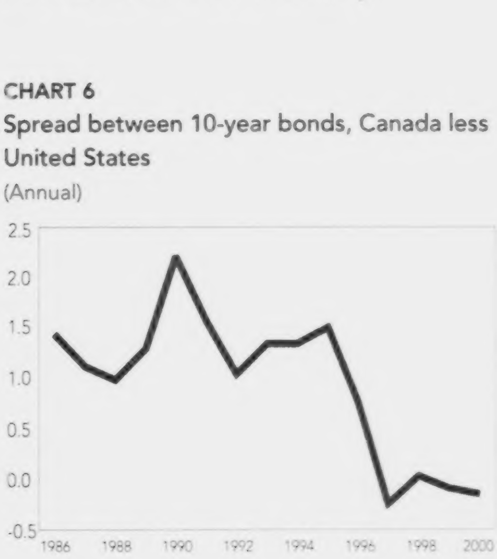
A potentially more telling example of the difficulties that inflation causes was first noted by Modigliani and Cohn (1979). This is more telling in the sense that more of the people involved should have been relatively sophisticated in dealing with inflation. The hypothesis of Modigliani and Cohn was that investors in the 1970s tended to incorrectly discount the expected real earnings of firms by using the nominal discount rate (instead of the real discount rate) and, in addition, did not take account of the real depreciation of the nominal liabilities of firms when estimating the real earnings of companies. Recent work suggests that the more accurate valuations obtained with low inflation in the United States after the early 1980s resulted in an economically significant improvement in the average annual real rate of return on equities (see Ritter and Warr 1999; Sharpe 2000).[17]

Other evidence that a more transparent monetary policy may be improving the functioning of financial markets can be derived from the market response to policy announcements. In this vein, Muller and Zelmer (1999) report on empirical tests on whether or not the efforts at increasing the Bank of Canada's level of transparency have in fact decreased the market's reactions to official monetary policy rate changes. The hypothesis is that greater transparency should "result in reduced conditional uncertainty because investor expectations would be formed with a superior information set." It is stated that "the Bank's efforts at increasing transparency appear to have helped market participants anticipate pending monetary policy actions." However, as noted in the conclusion of the paper, the results are also

CHART 6

Spread between 10-year bonds, Canada less United States

(Annual)



consistent with the possible existence of some unobserved factor that is not associated with the increased transparency of the conduct of monetary policy.

In work focused on assessing the understanding by financial market participants of the monetary policy reaction function, Gravelle and Moessner (2001) report that an investigation of asset price reactions to macroeconomic surprises finds no discernible increase in interest rate reactions to Canadian macroeconomic data over their short sample period (early 1995 to September 2000).[18] The authors suggest that the Bank's concern with exchange rate volatility at times in their sample period might have made it difficult for market participants to be sure about the Bank's monetary policy reaction function. They hypothesize that, to the extent that financial market participants still hold such an impression, it might change after they have some experience with fixed dates for announcing monetary policy changes, given that these dates will focus attention on the Canadian economic situation.

The mix of policy. As noted above, ove the 1980s Canada's overall fiscal positio deteriorated despite a stated commitment b the federal government to deficit reductio and despite an extended period of strong economic activity (see Drummond in this volume). In the early 1990s, concerns began t be expressed more widely and systematicall about the sustainability of rising governmen debt levels in Canada.

This situation led to a risk premium o financial instruments associated with the rapidly rising public sector debt levels, increase further at times by uncertainty about th future of the Canadian federation. In addition the rising fiscal debt-to-GDP ratios led th financial markets to be sceptical about th ability of the Bank to achieve the inflation target set by it and the government, creating a inflation-risk premium. As a result the Ban was unable to ease monetary policy as muc as it wanted to at points early in the inflation-target period (see Clinton and Zelmer 1997) Indeed, it was only after concerted action wa taken in the mid-1990s, at both the federa and provincial level, to eliminate defici financing and reduce the burden of debt tha interest rates in Canada fell to levels consisten with our low-inflation environment.

Another example of how the reinforcin mix of monetary and fiscal policy in the secon half of the 1990s contributed to improving ou economic prospects is the comparison betwee the financial market reaction to and the recovery of the economy from the 1994-95 Mexica crisis and the 1997-98 Asian crisis (aggravated by the Russian default on its debt servic payments in August 1998). The interest rat rise was smaller and unwound more quickly i the case of the Asian crisis than in the case o the Mexican crisis. As a result, economic activ ity was maintained at a solid pace and recovered to an even higher pace sooner than it did following the Mexican crisis.

Economic activity. The Canadian economy went through a difficult period of adjustment in the first half of the 1990s. And, as noted earlier, there are differences of view as to the most important factors that explain the sub-par performance of the economy during this period. The performance of the economy in the second half of the 1990s stands in sharp contrast. Canada's underlying inflation has been low and stable, and economic growth has been strong (see Knight 2000 and Table 3).

Admittedly, some of the growth in the second half of the 1990s reflected a recovery from the weakness in the first half. However, given that the period included the Asian crisis beginning in 1997, the strong growth in the second half of the decade is evidence of how an environment of low and stable inflation in conjunction with prudent fiscal management has improved the underpinnings and performance of the Canadian economy.

In reviewing the performance of the US economy over the period 1982 to 1996, Taylor (1998) called it a "long boom" and suggested that monetary policy was a key factor in its achievement, in particular the emphasis on keeping inflation low and stable. Among the problems he noted was that labour productivity growth had been much lower than during past periods of U.S. history. He then discussed the advantages to the US economy of rising productivity growth, which subsequently occurred. Freedman (2001) notes that the upturn in investment in machinery and equipment occurred in 1992 in the United States versus 1996 in Canada. Once the US economy experienced this pick-up in investment, higher rates of productivity growth followed roughly four years later. There are indications that Canada's productivity growth is picking up with the recent growth rates moving towards the 2 percent range (see Table 3).

Another measure of the payoff from a low and stable inflation environment would be a lower variability of output. Amano, Coletti and Macklem (1999) report results of stochastic simulations of a model of the Canadian economy where a higher credibility for monetary policy is assumed. These results show more stable output when policy is credible. Work by Debs (2000) provides evidence that a structural break in the volatility of output growth occurred in Canada in early 1991. Given its coincidence with the structural change in monetary policy, Debs notes that his result may reflect a reduction in the magnitude of the boom-bust cycles arising from the focus of monetary policy on achieving and maintaining low, stable inflation.

Output volatility measured as the standard deviation of the output gap (the difference between actual and potential output) shows a reduction in the second half of the 1990s. Its standard deviation over the period 1973 to 1989 and the first half of the 1990s was essentially the same, before moving down somewhat in the second half of the 1990s. This result is consistent with the view that a more rapid policy response to anticipated movements in inflation above and below the inflation target should moderate the effects of demand shocks.

CONCLUSION

This paper outlines the fundamental changes that occurred in the monetary policy framework of the Bank of Canada in the 1990s. Starting with the introduction of explicit inflation targets in 1991 and strengthened through subsequent measures to increase transparency and accountability, a low and stable inflation environment has been established in Canada. This is clearly seen in that medium- and long-run inflation expectations have become firmly anchored to the midpoint of the 1 to 3 percent target range for inflation control. Creating a clear and consistent framework is one of the major contributions of monetary policy in the 1990s.

The transition to a low, stable and predictable inflation environment, however, was not without cost. The deep-seated inflation psychology going into the 1990s as a result of the experience of the two previous decades, together with fiscal policy on an unsustainable track because of nearly 20 years of deficit financing, resulted in a difficult period of adjustment for the Canadian economy in the first half of the 1990s.

It was only after the dramatic shift in fiscal policy in the mid-1990s that overall macroeconomic conditions, including very importantly low inflation, began to produce the desired policy outcome of sustained growth at high levels of activity, and to encourage investment in new equipment and technology necessary for a pick-up in productivity growth. The role that monetary policy played to support this change of behaviour and improved economic performance through low inflation represents its other major contribution to the economic well-being of Canadians in the 1990s.

NOTES

The views herein are our own, and no responsibility for them should be attributed to the Bank of Canada or to anyone else. We would like to thank our colleagues at the Bank of Canada and participants at a workshop hosted by CSLS and IRPP, especially our discussant Brian MacLean, for comments. Annie De Champlain and Andrew Evans provided research assistance. Any errors that remain are solely ours.

1 Taken from Arnold C. Harberger's Presidential Address to the American Economic Association (Harberger 1998).

2 See Crow (1988) for reasons why a monetary policy that promotes stability in the value of money is the best contribution that a central bank could make to raising living standards.

3 See Mishkin (1997) for more elaboration on the arguments in the early part of this section.

4 Of course, there are countries where indexation has been used extensively (Brazil in the early 1990s, for example). However, most of these countries have moved away from using indexation for various reasons, most importantly because of the difficulties it poses for the adjustment of the economy to real shocks. Indexation also makes a policy of disinflation more difficult.

5 See the examples in "Five-Year Tax Reduction Plan." Chapter 4 in the Budget Plan, February 2000. For an indication of how the interaction of inflation with the tax system can have potentially large effects, see Black, Macklem and Poloz (1994) and O'Reilly and Levac (2000) and some of the references in these papers.

6 More recently, Akerlof, Dickens and Perry (2000) have advanced the idea that at a particularly low inflation rate, workers do not pay such close attention to inflation in their wage negotiations, with the result that real wage offers can be lower than they otherwise would be and hence th unemployment rate lower. The implications o this work lead to some of the same conclusion for the definition of optimal inflation in th United States, as does their earlier work on downward nominal wage rigidity. Fortin and Dumon

(2000), replicating this work for Canada, reach the same conclusion as Fortin (1996) for the choice of the target rate of inflation.

7 For an overview of the evolution of the monetary policy framework during the existence of the Bank of Canada see Gordon Thiessen (1998/99, 2000/01).

8 For some theoretical and simulation work that has elements of this framework and shows that they contribute to the credibility of the inflation target, see Yetman (2001).

9 Although the targets are specified in terms of the total CPI, the Bank uses the core CPI (CPI excluding food, energy and the effect of changes in indirect taxes) as the basis for policy actions. Therefore, core CPI is the operational guide for monetary policy. Provided fluctuations in food and energy prices have only temporary effects on inflation, the total and core measures of the CPI would move in a similar fashion over the medium term.

10 To undertake economic projections and to address "what if" questions, a number of internal changes dealing with monetary policy decision-making in an uncertain world were made at the Bank in the 1990s (see Duguay and Poloz 1994; Duguay and Longworth 1998; Longworth and Freedman 2000). Complete descriptions of the philosophy, theory and form of the models used in staff projections and policy analysis are provided in Black, Laxton et al. (1994) and Coletti et al. (1996). For a discussion of monetary conditions and how the monetary conditions index was and is used at the Bank of Canada, see Freedman (1995, 2000).

11 With inflationary pressures in Canada greater than those in the United States, and with a more deeply entrenched inflation psychology in Canada, the recession here was more severe than in the United States. Taylor (1998) suggests that inflationary psychology had been arrested in the early 1980s in the United States.

12 Ip (1998) and Ip, King and Verdier (1999) provide some evidence on the supply side of the labour market.

13 Prior to 1984, the CPI excluding food and energy was used. For the period 1964:Q1 to 1991:Q1 (1971:Q1 to 1991:Q1), the standard deviation was 2.0 (2.6) percentage points.

14 Consider the case of a firm making decisions to change prices. For a firm that fixes its nominal prices for a period of time, inflation will cause its relative prices to change over time, depending on the economy-wide inflation rate. The relative prices of such a firm will change more slowly in a low-inflation than in a high-inflation environment. As a result, it will take longer for the firm to incur the cost of adjusting its nominal prices to reset its relative prices.

15 The reduction in person days lost due to strikes may be in part related to fear of losing jobs in a period of excess supply. However, in the latter parts of the 1980s and 1990s when economic activity was strong there were declines in this ratio. The ratio was lower in the latter part of the 1990s than it was in the 1980s, as was inflation.

16 These are components of the total shown in the top panel. The data on business credit and its components are taken from Table E2 of the *Bank of Canada Review*. Long-term business credit is the same as the term "other business credit" used in Table E2 and includes such financing instruments as non-residential mortgages, leasing receivables, bonds and debentures and equity.

17 Sharpe (2000) notes some of the shortcomings of the Modigliani and Cohn (M-C) work but concludes that "Nonetheless, in an important sense, the Modigliani-Cohn hypothesis — that equity prices are distorted by money illusion — could well have been close to the mark." Sharpe hypothesizes that investors might have used a nominal interest rate to discount expected nominal earnings (rather than real earnings as in

M-C) with the expectations of nominal earnings "contaminated by money illusion" (p. 29).

18 This sample period was also one in which Canada and the United States experienced strong economic growth, leading to similar moves in interest rates on a number of occasions, although not all the time.

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Interest Rates, Unemployment and Inflation: The Canadian Experience in the 1990s

Pierre Fortin

INTRODUCTION

The Canadian economy did poorly in the 1990s, particularly in the first half of the decade. Table 1 considers decade averages for Canada since 1920. It shows that in the 1990s per capita real GDP never grew more slowly, and unemployment was never higher on average, since the decade of the 1930s. An offsetting factor was the marked deceleration in consumer prices. Inflation, according to the Consumer Price Index, was at its lowest level since the 1930s. Table 2 extends the comparison to the eight largest economies of the OECD over the 1990s. Canada had the lowest growth rate of all countries for per capita GDP. Its average unemployment rate (of nearly 10 percent) was not too far below those observed in France and Italy. Again, Canada's CPI inflation rate was on the low side, exceeding only those of France and Japan. This review will focus on the last two dimensions of Canada's economic performance in the 1990s — unemployment and inflation. The first dimension — the trend growth of per capita real GDP — is left for others to discuss.

The performance of the Canadian economy in the 1990s regarding unemployment looks particularly bad when compared to that of the United States. Chart 1 depicts the time path of the Canada-US unemployment rate *differential* (Canadian unemployment minus US unemployment). It rose sharply to 4.5 percentage points in 1993 from 2.2 points in 1989, reflecting the comparative depth and length of the Canadian recession. Then it began to shrink after the Canadian recovery finally took hold in 1997, but going into 2001 it was still 2.7 points — above the 1989 level. In contrast, as shown in Chart 2, the Canada-US CPI inflation differential was almost consistently *negative*, indicating that inflation was higher in the United States than in Canada every year except in 1991, when the goods and services tax was introduced in Canada. Over the nine-year period 1992-2000, the CPI inflation rate averaged 2.7 percent in the United States and 1.6 percent in Canada.

In this broad description of events, the key observation is the negative correlation between inflation and unemployment outcomes. The inflation rate was the lowest in

TABLE 1

Growth, Unemployment and CPI Inflation in Canada, Decade Averages 1920s-1990s

Decade	Growth rate of real per capita GDP (%/year)	Unemployment rate (%)	CPI inflation rate (%/year)
1920s	4.3[1]	3.5[2]	-0.6
1930s	-0.6	13.1	-1.8
1940s	3.8	3.2	4.7
1950s	2.4	4.2	2.4
1960s	3.2	5.0	2.5
1970s	3.0	6.7	7.3
1980s	1.7	9.4	6.5
1990s	1.1	9.6	2.2

Note: The growth rate of real GDP per capita is the annual percentage change in the ratio of GDP in constant dollars to the total population; the unemployment rate is the average proportion of the labour force who are without work; the CPI inflation rate is the annual percentage change in the all-items CPI. The standard definition of decades is 1920-29 and so on. For growth and inflation, the calculated averages are compounded average rates of changes over the decade.

[1] Average for 1926-29.

[2] Average for 1921-29.

Source: Statistics Canada.

six decades, falling below the US rate. In contrast, the unemployment rate was the highest in six decades, exceeding the US rate by a significant margin. This naturally raises the following question: If there is a genuine negative trade-off between inflation and unemployment, were the policy choices made to influence the actual outcomes for inflation and unemployment in that trade-off the best in the circumstances?

In the following sections, I argue that Canadian interest and unemployment rates were too high and that inflation was too low. I attribute a large share of responsibility for these outcomes to excessively restrictive monetary policy. I suggest various ways in which Canadian monetary policy could be welfare-improving in the future.

THE MONETARY TRANSMISSION MECHANISM

In assessing the role played by monetary policy in the events of the 1990s, it is useful to first clarify the framework for discussion. I will rely on the usual three-step "transmission mechanism" of monetary policy (see Thiessen 1995). Consider the case of the Bank of Canada tightening monetary conditions. The first step is for the Bank to withdraw cash from the financial system. With less cash in circulation, the cost of borrowing and short-term interest rates increase. An immediate consequence is that more foreign capital is attracted to Canadian-dollar assets and that the exchange rate of the Canadian dollar appreciates. These simultaneous increases in interest rates and in the value of the Canadian dollar are exactly what is meant

TABLE 2

Growth, Unemployment and CPI Inflation in the Eight Largest OECD Countries, 1990s Averages

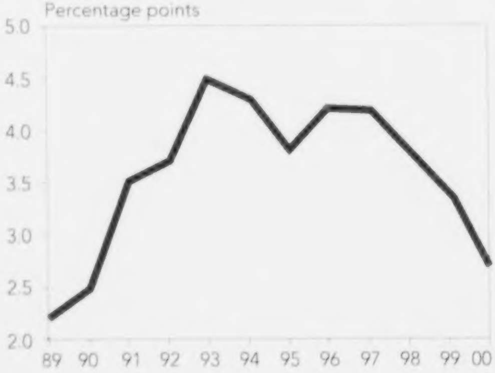
Country	Growth rate of real per capita GDP (%/year)	Unemployment rate (%)	CPI inflation rate (%/year)
United States	2.0	5.8	3.0
Japan	1.4	3.1	1.2
Germany	1.6	7.5	2.5
France	1.2	11.3	1.9
Italy	1.4	10.6	4.2
United Kingdom	1.6	8.2	3.7
Canada	1.1	9.6	2.2
Spain	2.3	19.9	4.2

Note: See definitions in the note to Table 1. Unemployment rates are based on the standardized definitions used by the OECD.

Source: OECD.

CHART 1

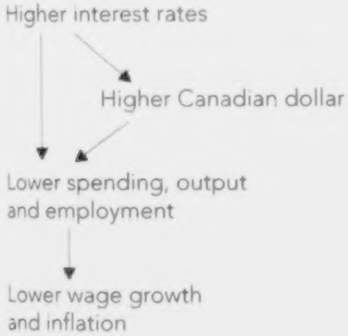
The Canada-US Unemployment Rate Differential: Canadian Unemployment Minus US Unemployment, 1989-2000



Source: Statistics Canada; US Bureau of Labor Statistics.

by a "tightening of monetary conditions." The second step in the transmission mechanism is that higher interest rates and the appreciated Canadian dollar both depress aggregate spending and output. Higher interest rates discourage consumption and investment, and the appreciated dollar slows down exports and stimulates imports. Lower sales and profits then induce firms to reduce output and employment. The third step is that weaker profits and higher unemployment induce firms and workers to be more prudent in setting wages and prices. Wage growth and price inflation both decline. Two important characteristics of this mechanism are that it takes up to two years to unfold and that it operates in an uncertain economic environment.

The following arrow diagram summarizes the transmission mechanism:

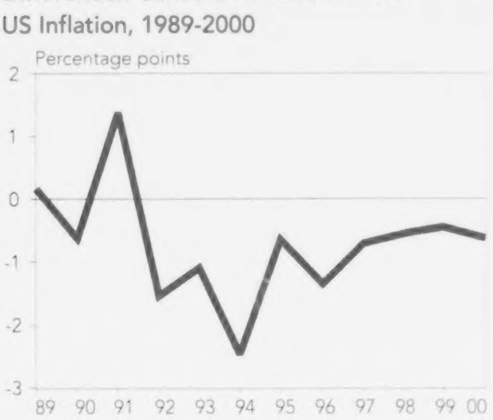

Higher interest rates
Higher Canadian dollar
Lower spending, output and employment
Lower wage growth and inflation

Within this framework, the mandate of Canadian monetary policy since the beginning of the 1990s has been to achieve a specified inflation target at least cost in terms of lost output and employment. Setting an inflation target within a specified range is, in my view, a reasonable way of conducting monetary policy in a country operating under a regime of flexible exchange rate. It helps to stabilize inflation expectations and gives a clear signal to public and private sector agents as to what monetary policy is up to and how it is going to react under various circumstances, thus reducing uncertainty. Since 1995 in Canada, the official inflation target has been 2 percent, which is the midpoint of the official target range of 1 to 3 percent.

The arrow diagram clarifies the nature of the policy conflict between the objectives of low unemployment and low inflation. Increasing interest rates and the value of the dollar raises unemployment and reduces inflation; decreasing interest rates and the value of the dollar reduces unemployment and raises inflation. There is a trade-off, and a policy choice cannot be avoided. I will accordingly consider three broad questions concerning the conduct of monetary policy in the 1990s. First, have interest rates been too high? Second, have output and employment been too low? Third, has the inflation rate been too low? My answers to these questions will be: yes, yes and yes.

CHART 2

The Canada-US CPI Inflation Rate Differential: Canadian Inflation Minus US Inflation, 1989-2000



Source: Statistics Canada; US Bureau of Labor Statistics.

HIGH INTEREST RATES

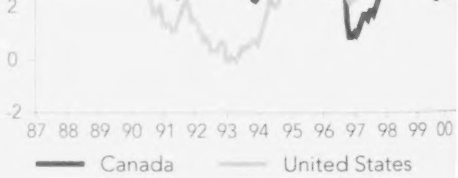
Chart 3 shows the evolution of Canadian and US *real* (i.e., net of CPI inflation) short-term interest rates since 1987. In the seven-year period 1989-95, the Canadian rate exceeded the US rate by an unprecedented margin of 3.12 percentage points on average. Does this mean Canadian interest rates were too high and Canadian monetary policy too tight in this period?

Before answering this question, it is important to hear the account of Canadian economic events of the decade given by the Bank of Canada. A recent article by Deputy Governor Freedman gives exactly such an account (Freedman, in press). Recognizing that Canada's economic performance in the 1990s, especially in the first half of the decade, was "not entirely satisfactory," Freedman begins by stating: "The tightening of monetary conditions in the latter part of the 1980s and the introduction of inflation targets in 1991 were aimed at forestalling...an outbreak of inflation and gettin the rate of inflation down to lower levels tha had prevailed in the 1980s." He admits tha the Bank of Canada and other forecaste were then taken by surprise by the swift rea tion of the economy: "Although the consen sus forecast at the time was for a soft landin of the economy, the downturn in 1990-9 was much deeper than had been anticipate the rate of inflation came down much fast than planned, and the recovery was slow than expected."

Freedman attributes the first two occu rences to the US recession and a sharp declin in commodity prices. He then explains th third development — the extended weakne of the economy past 1991 — by three factor First, the severe fiscal problems experience by all levels of government initially "resulte in higher interest rates on Canadian debt, risk premiums were built into medium- an longer-term interest rates." Later, the ta increases and expenditure reductions neede

CHART 3

Real 3-month Interest Rate on Corporate Paper, Canada and United States, January 1987-March 2001



Source: Bank of Canada and Statistics Canada; US Federal Reserve Board and US Bureau of Labor Statistic to bring the fiscal situation back under control had the unavoidable side effect of prolonging the sluggishness of domestic spending and output. Second, Freedman argues, globalization, free trade, deregulation and technological change generated significant private sector restructuring, which increased the negative effects on aggregate spending, output and employment.

Third, he suggests that although the Bank of Canada came to realize aggregate activity was declining further and wanted to provide more support to the ailing economy, its "attempts to reduce short-term interest rates were hindered." He explains: "On a number of occasions...nervousness in the markets about the combination of the fiscal situation in Canada, domestic political developments, and international financial developments resulted in higher interest rates and tighter monetary conditions than the Bank desired... In such circumstances...efforts by the Bank to aggressively lower very short-term interest rates would have risked undermining confidence in Canadian-dollar-denominated assets and causing interest rates further out the yield curve to increase — a counter-productive outcome." Freedman sees confirmation of the key importance of fiscal credibility in the fact that "it was only in the second half of the 1990s, when the deficit was brought under control and the debt-to-GDP ratio was seen to be moving onto a credible downward track, that the risk premiums fell and Canadian interest rates were able to move below US rates."

I am sceptical about two specific arguments made by Freedman. First, I find it hard to believe that private sector restructuring was a cause of sluggishness of the recovery. The Deputy Governor seems to confuse a reallocation shock affecting the *composition* of demand with an aggregate demand shock impacting on its *level*. Further, not to deny the supply-side possibility that a major reallocation shock could raise aggregate unemployment by increasing the degree of mismatch in labour markets, the available evidence in this particular instance is just the opposite. From 1992 to 1996, the national unemployment rate declined by about 1.5 percentage points at a given level of the aggregate job offer rate. This indicated the degree of job mismatch and structural unemployment were both declining, not rising.

Second, I am not convinced by the argument that market concerns about the fiscal situation and other developments prevented the Bank of Canada from easing monetary conditions. Monetary conditions broadly mean the whole range of interest rates and asset prices, including the exchange rate, and bank liquidity. Even in instances where markets interest rates would steadfastly refuse to decline despite large injections of central bank cash, monetary conditions would still be improved by relaxing the constraints on bank credit and allowing the exchange rate to depreciate to some (limited) extent. Aggregate demand would increase as a result.

Be that as it may, Freedman's bottom line is that fiscal policy is to blame and that monetary policy was never in error. However, an entirely different interpretation of Canadian events in the 1989-95 period is possible. It is arguable that the explosion of debt-service costs, the deep and protracted recession, the drop in fiscal revenue, the rise in social expenditures, rising risk premiums, unsettled financial markets, the constraints on the central bank's ability to ease monetary conditions, and the sharp fiscal retrenchment were all initiated by the high interest rates the Bank of Canada had begun to set as early as in 1988. It can also be argued that, in contrast, fiscal policy had been on the right course. The structural fiscal balance had been improving every year after 1985, and as of 1989 the debt-to-GDP ratio had been stabilized. The comparison with US events is quite revealing. Entering the 1990s with approximately the same public sector debt-to-GDP ratio as Canada at the end of the 1980s, the US Federal Reserve kept real short-term interest rates more than 3 points below Canadian rates on average over the 1989-95 period (Chart 3). In this way, the United States avoided the kind of monetary overkill that hit Canada and was able to escape a full-blown economic and fiscal crisis. The bottom line of this alternative story is that monetary policy, not fiscal policy, is to blame for Canada's dismal economic performance in the first half of the 1990s.

Which of the two stories makes more sense? I am inclined to believe that monetary policy was the first mover. It initiated the unfortunate sequence of events by raising interest rates sharply in the late 1980s. The economic and fiscal crisis came later. But I am nevertheless ready to concede that fiscal policy had previously made the public sector financially vulnerable and must share responsibility for what happened. Even if the public sector debt-to-GDP ratio had been stabilized at the end of the 1980s, it was still too high. The Canadian public sector was exposed to a new round of rising debt and deficits in the event that interest rates would rise significantly. It should have been obvious to anyone that close coordination between fiscal and monetary policy was essential at the point (1988) when the Ba of Canada began to raise interest rates to co tain and reduce inflation. Fiscal-moneta coordination would have meant more mo erate increases in interest rates by the Ba of Canada, and a strong fiscal commitme to reduce the debt-to-GDP ratio more quic ly. Without coordination, interest rates, t budget and the entire economy went out control for seven years. Here again, the co trast with US events is striking. Rece accounts of the interaction betwe Greenspan's Federal Reserve and the Bu and Clinton administrations from 1987 2000 all emphasize that monetary-fiscal coo dination was a key ingredient of US macr economic success in the last decade (Mart 2000; Woodward 2000).

Why was fiscal-monetary coordinati absent from Canadian policy planning un 1995? It is hard to say. Clearly, the la 1980s were extremely busy years for t Mulroney government. It had to simultan ously handle several delicate reforms invol ing deregulation, privatization, major t changes, free trade and so on. Maybe thought monetary policy was one ball t many to juggle and was only too happy give the Bank of Canada carte blanche wi interest rates. And maybe in turn the Ba of Canada failed to make as forcefully clear the government as it should have the di financial consequences of higher interest ra interacting with the large accumulated de Whatever the reason, policy coordinati does not seem to have been part of the voca ulary of the time.

To summarize, the fact that Canadi interest rates were too high for too long universally acknowledged, including by t Bank of Canada. But there are differences the interpretation of events. The Bank argues that interest rates stayed high mainly because the fiscal situation had deteriorated so much that markets began to require risk premiums to hold Canadian-dollar assets. Others point out that the fiscal situation would not have reached that point if the Bank of Canada had not raised interest rates so sharply in the first place. Obviously, the problem stemmed from the damaging interaction between high accumulated public debt and high interest rates, and the solution resided in a monetary-fiscal pact to reduce the debt and keep interest rates low. Policy coordination could have avoided the problem, but unfortunately did not take place. To witness, by establishing a better mix between the two policy levers — tighter budgets and easier money — at an early stage, the United States experienced a shallower and shorter recession followed by a swift recovery.

HIGH UNEMPLOYMENT

Lack of policy coordination was one type of policy error made in the first half of the 1990s. But serious difficulties also marked the management of aggregate demand by the Bank of Canada throughout the decade. As indicated earlier in the description of the monetary transmission mechanism, interest rates and the exchange rate exert a lasting influence on inflation through their impact on aggregate spending, output and employment. More specifically, the central bank normally tries to set monetary conditions so as to influence the gap between actual output and a threshold level of output called *potential output*. Potential output is defined as the maximum level of output that can be sustained without inducing a general price acceleration. The further actual output is below potential output — that is, the larger the *output gap* the stronger the downward pressure on inflation. In real time, output gap management is an important component of central bank operations because it constitutes the key intermediate link between the immediate monetary instrument — interest rates — and the ultimate target of policy — the inflation rate. It takes about a year for the output gap to react to the initial monetary impulse, and another year for the inflation rate to respond to the induced change in the output gap.

The process of targeting a certain level of the output gap (with an eye to controlling inflation) can be subject to three types of error. First, potential output is an unknown quantity that must be estimated. It can be overestimated or underestimated. Second, the level of output targeted by the central bank can be too high or too low relative to the estimated potential output. Third, actual output may eventually turn out to exceed or fall short of targeted output. I see evidence of a systematic tendency on the part of the Bank of Canada to err on the low side in all three components of its operations. Most of the time, actual output fell short of targeted output, targeted output was kept below the estimated potential and potential output itself was underestimated.

During the 1990s the first tendency was for actual output to fall short of targeted output. This came as a surprise to the Bank of Canada. As Bank of Canada researchers Freedman and Macklem (1998) put it: "From 1989 to 1991, both real interest rates and the real value of the Canadian dollar were high, but between 1991 and

1995 the Canadian dollar depreciated by more than 25 per cent. Based on historical estimates of the effects of monetary conditions on aggregate demand, the puzzle is why we did not see a stronger recovery, given the easing in monetary conditions over the period." In other words, even if interest rates remained high, the exchange rate depreciation was so large that the Bank thought monetary conditions were easy and monetary policy expansionary on net.

As we have seen, Freedman (in press) explains this implementation error after the fact by the fiscal situation, by the risk premiums it introduced into the interest rate structure and by private sector restructuring. But this explanation is hard to accept, since the central bank could observe fiscal policy and the high levels of medium- to longer-term interest rates and take their aggregate demand consequences into account in setting short-term interest rates. Further, there is no evidence of negative effects of restructuring on aggregate *demand*. A more plausible explanation is that the Bank of Canada seriously underestimated the negative effects of high interest rates on consumption and investment, and overestimated the favourable effects of the exchange rate depreciation on net exports. This interpretation is given credence by Freedman and Macklem's admission that a key output equation (Duguay 1994) previously used by the Bank to measure the response of output to the short-term interest rate and the exchange rate and to construct the Bank's monetary conditions index turned out to overestimate output cumulatively by 12 percent over the 1992-96 period.

The second tendency has been for targeted output to be held below the estimated level of potential output. Once inflation had been reduced to a low level in 1992, it wa decided to keep it there. After inflatio expectations had adjusted, the deterministi solution would have called for bringing actual output to match potential, thus leavin neither upward nor downward pressure o the inflation rate. This would have mean planning for a zero output gap.

An important practical problem, how ever, is that potential output is unobserve and has to be estimated by the central bank In this uncertain environment, it is not usual ly optimal to plan for actual output to matc the estimated level of potential output as if th latter were certain. In general, the optima solution of this planning problem unde uncertainty is to aim for an actual output leve that makes the subjective probability o exceeding the true potential output a decreas ing function of the perceived cost of doing sc In other words, if you think exceeding the tru potential output level is very expensiv because you figure the recession cost of eliminating the resulting increase in inflation i large, then you will make sure the probabilit of making that mistake is very small. For sufficiently large estimated cost, you will air for an actual output level *below* your subjectiv expected value for potential output.

Is there evidence that, during th 1990s, the Bank of Canada was seriously cor cerned about the prospect of actual outpu exceeding potential output? Yes. Whil understandably, there was no official stat ment to that effect, the Bank of Canac Research Department put out many pape suggesting that inflation responded signif cantly more to the output gap when actu output was above potential than when it w below it (e.g., Fillion and Léonard 199 Laxton et al. 1993*a*; Macklem 1997). Laxt et al. (1993*b*) made the policy implications explicit, and further argued that "if a central bank cannot be sure of whether the economy is non-linear or linear, it is better off maintaining the a priori position that the economy is non-linear."

This continued insistence on non-linear inflation dynamics makes it almost a sure bet that the Bank of Canada aimed for positive output gaps in order to buy insurance against unknowingly crossing over the potential output line. It should be noted that no such fear of non-linearity was held at the US Federal Reserve or at the US Council of Economic Advisers (e.g., Blinder 1998; Stiglitz 1997).

The third tendency has been for true potential output to be underestimated. The Bank of Canada has in fact recently admitted that its methods had previously led it to underestimate true potential output (Bank of Canada 1999). It attributes this systematic bias to the greater-than-expected economic restructuring that took place in Canada in the 1990s and encouraged faster productivity growth.

But to construct its estimate of potential output the Bank also relied on questionable smoothing techniques and neglected widespread evidence of declining structural unemployment. In essence, the Bank applied mechanical trend-fitting techniques (called "filters") to the past history of actual output, and then weighted the results of this operation judgementally with certain estimated statistical relationships (Butler 1996). Unfortunately, this methodology seems liable to automatically build sustained slumps into the estimated trend of potential output (Krugman 1998). One result was that, over the seven-year period 1990-96, the Bank's estimate of the average growth rate of potential GDP per capita for Canada was only 0.4 percent per year. This does not make sense under any reasonable set of assumptions about trend productivity growth and employment rate change.

In addition, the Bank was slow to recognize the tendency, which was already discernible by mid-decade, for the national unemployment rate to decline at any given level of the job offer rate (see Fortin 1999). Consistent with this shift, the relative size of the youth labour force was declining, the average level of education was rising rapidly, deregulation and globalization were increasing competitive pressure in labour and product markets, and stiffer regulations were imposed on access to unemployment insurance benefits. All of these factors are known to reduce the minimum non-inflationary unemployment rate, and hence to increase potential output.

The three types of error just reviewed — actual output below targeted output, targeted output below estimated potential output and estimated potential output below true potential output — have all contributed to holding actual output below true potential output. This has imparted a deflationary bias to Canadian monetary policy not only in the first half of the decade but in the second half as well. Consequently, the inflation rate was too low.

LOW INFLATION

In 1988 the Bank of Canada announced it would pursue the medium-term objective of "price stability," which essentially meant reducing CPI inflation below 2 percent (Bank of Canada 1988). In early 1991 the

Governor of the Bank and the Minister of Finance jointly announced the setting of targets for reducing CPI inflation and reaching price stability in Canada. The official inflation target was set at 3 percent by the end of 1992, 2.5 percent by the middle of 1994 and 2 percent by the end of 1995 (Bank of Canada 1991). The agreement between the Governor and the Minister was renewed in 1993 and 1998, extending the 2 percent target from the end of 1995 to the end of 2001 (Bank of Canada 1993/94, 1998). The agreement has provided for a target range of plus or minus one percentage point around the official target. Thus since 1995 the official inflation target has been 2 percent and the target range has been 1 to 3 percent. The target is defined in terms of the 12-month rate of increase in the total CPI, but the operational guide for policy has been the increase in the CPI excluding food, energy and the effect of indirect taxes, called the *core* inflation rate.

The inflation rate was too low in Canada through the 1990s, for two reasons. First, the actual inflation rate was kept systematically below the official target. Second, as I will argue, the official target itself was set at too low a level.

Actual Inflation Below Target

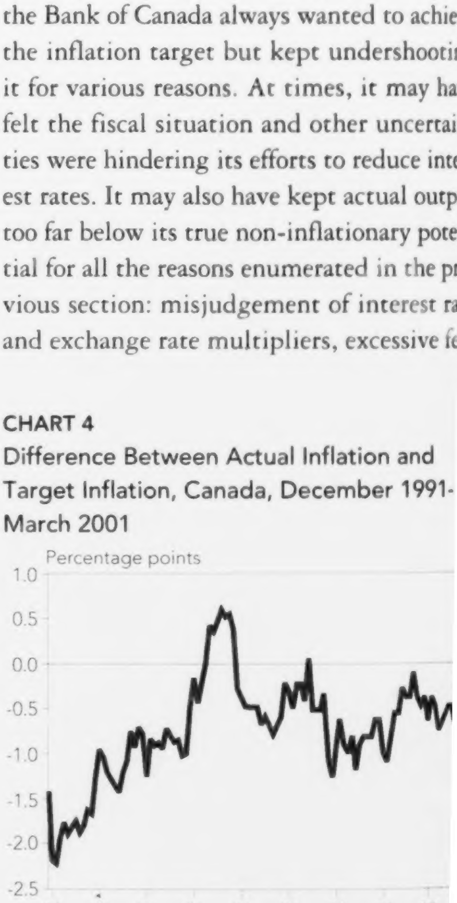
Chart 4 establishes that from December 1991 to March 2001 actual inflation never exceeded the inflation target except for eight months in 1995 and one month in 1997. In that nine-year period, core inflation was 0.70 point below target on average. Even in the more recent 1996-2000 period, after the fiscal situation could no longer be used as an excuse, the gap between actual and target inflation still averaged 0.55 points.

There are three possible explanatio for this systematic undershooting of targ The first is that the Bank of Canada was ho estly aiming at target throughout the 199 but was frustrated by an incredible string bad luck, with unexpected factors constan ly pushing actual inflation below targ However, once the variability of the inflati process is taken into account, formal statis cal tests show that the probability bad lu would strike five years in a row from 1996 2000 is less than 1/1000. Pure randomne must be rejected.

The second possible explanation is th the Bank of Canada always wanted to achie the inflation target but kept undershooti it for various reasons. At times, it may ha felt the fiscal situation and other uncertai ties were hindering its efforts to reduce int est rates. It may also have kept actual outp too far below its true non-inflationary pote tial for all the reasons enumerated in the pr vious section: misjudgement of interest ra and exchange rate multipliers, excessive fe

CHART 4

Difference Between Actual Inflation and Target Inflation, Canada, December 1991-March 2001



Source: Bank of Canada and Statistics Canada.

of exceeding estimated potential output and underestimation of true potential output.

The final possibility is that, even though the 1991 joint communiqué specified "it is the midpoints of the range that will be the objective of monetary policy actions...rather than the upper or lower band" (Bank of Canada 1991), the Bank may nevertheless have decided it would keep actual inflation below the official target. The reason it would have consciously undershot the official inflation target is to position itself strategically to convince the government the target should be reduced further below 2 percent. That would have been in conformity with the statement of the 1991 communiqué that price stability was "a rate of increase in the CPI that is clearly below 2 per cent." Former Governor Crow seemed to support this strategic approach in 1997 when he declared that there was "no good economic reason to drive inflation up from current levels after having got it down and kept it down — whether that was by intention or by good fortune." Hence, "with inflation already having been held at around 1.5 percent for a number of years, 0.5 to 2.5 percent could easily be announced as a target range that constitutes a working definition of price stability" (Crow 1997). However, in 1998 the government was not ready to lower the official target below 2 percent.

Why should it matter that actual inflation averaged a mere 0.5 point less than the official target rate over an extended period? Essentially because, when inflation is already very low, even a slight further reduction in inflation could have important damaging impacts on the levels of output and employment that could be sustained permanently. I will in fact argue not only that the 1.5 percent average inflation rate achieved over the past decade was too low, but that the 2 percent official target was itself too low. The unemployment-minimizing rate of inflation would likely be in the 2.5 to 3 percent range and could support an unemployment rate as low as 5.3 percent in Canada.

Target Inflation Set Too Low

The traditional view of the trade-off between inflation and unemployment — the third component of the monetary transmission mechanism described earlier — is that the benefits from very low inflation are "large and permanent" and the related unemployment costs are "small and temporary." While lower inflation has to be purchased at the cost of higher unemployment, this negative trade-off would be purely transitory. Many central bankers share this view. The macroeconomic expression of this idea is the following equation:

annual change in inflation =
½ x (NAIRU - actual
unemployment)

This equation says inflation will increase, remain unchanged or decrease depending on whether the actual unemployment rate is less than, equal to or greater than some threshold unemployment rate, called the non-accelerating-inflation rate of unemployment (NAIRU). The NAIRU is exactly what I called the minimum non-inflationary unemployment rate in the previous section. It is the outcome of economic forces independent from monetary policy. We can call the difference between the NAIRU and actual unemployment the ***unemployment gap***. The unemployment gap in labour markets is the analogue of the output gap in product markets defined earlier. In fact, the two gaps are roughly proportional — a relation called Okun's Law. As indicated in the equation, the standard estimate for the proportionality factor between the annual change in inflation and the unemployment gap is about one-half.

In this framework, a central bank can reduce inflation simply by temporarily raising actual unemployment above the NAIRU. It does so by first tightening monetary conditions to open an unemployment gap, then allowing inflation to decline, and finally easing monetary conditions to close the unemployment gap again once the job of reducing inflation is done. In the long run, there is a unique rate of unemployment that is consistent with an unchanging level of inflation (whatever that level turns out to be), namely the NAIRU itself. This can be represented by a vertical straight line in the unemployment-inflation plane.

The problem with this traditional view of the inflation process is that it is a total failure as a description of the time paths of inflation and unemployment in Canada over the past decade. To see this, one need only set out a reasonable path for the NAIRU over 1992-2000 and calculate how much cumulative deflationary pressure the path of actual unemployment would have generated as a result. I will assume, conservatively, that the Canadian NAIRU declined by 15 basis points a year, from 8.2 percent in 1989 (the Bank of Canada estimate for that year) to 6.6 percent in 2000 (which is slightly less than the actual unemployment rate of 6.8 percent for that year). Evidence of this kind of structural decrease in the NAIRU during the past decade was mentioned in the previous section. This assumption about the trend in the NAIRU implies that the sum of annual unemployment gaps (the annual differences between actual unemployment and the NAIRU) cumulated to 19.4 percentage points over the nine years from 1992 to 2000. Given the proportionality factor of one-half, core inflation should have declined by 9.7 points from 1992 to 2000. But in fact the annual level of core inflation for 2000 (1.5 percent) was actually unchanged from its 1992 level.

This is a severe case of "missing deflation." In my view, it delivers a death blow to the traditional view of the inflation-unemployment trade-off contained in the equation above. It cannot be countered that the extra deflationary pressure created by the substantial gap between observed unemployment and the NAIRU was needed to deal with some large inflationary supply-side shocks. There were no such lasting shocks: On the wage front, union militancy was weak and wage moderation the rule. On the price scene, inflation rates from imports, food, energy and indirect tax changes were roughly in line with core inflation cumulatively. Measures of expected inflation were also roughly in line with past-year inflation. From 1992 up to the 2000 oil shock, on average about 85 percent of respondents to the semiannual Conference Board Survey expected prices to increase by 2 percent or less.

If the "traditional" view of the inflation-unemployment trade-off is contradicted by evidence from the 1990s, what should it be replaced with? An even older view. It is striking to observe that, in the previous period of low inflation during the 1950s and 1960s, it was widely accepted that nominal wage and price rigidities mattered a great deal and that very low inflation was harmful to growth. To generate a "new" view of the inflation-unemployment trade-off more appropriate for a low-inflation economy, it is therefore worth revisiting ideas put forward in those days. I focus on views developed by James Tobin (1972) and by Otto Eckstein and Roger Brinner (1972).

Central to Tobin's analysis of the low-inflation environment is the effect of *downward nominal wage rigidity* in an economy in which individual firms keep experiencing unforeseen changes in the demand for their output. As the central bank seeks to achieve lower and lower inflation, the percentage of firms and workers facing *and* resisting the prospect of a nominal wage cut at any point in time increases. Firms are also reluctant to impose absolute wage cuts for fear of losing their best employees and suffering a drop in productivity. This general resistance to lower wages means that the authorities can achieve lower inflation only by imposing a *permanently* stronger dose of unemployment on the rest of the economy. The implications of Tobin's analysis are the following: In the range of moderate to high inflation rates, where few nominal wage constraints would have to be faced, the long-run trade-off between inflation and unemployment could be vertical at a unique NAIRU level in the unemployment-inflation plane, just as the traditional view predicts. But in the range of low inflation rates, where nominal wage constraints would become more and more common, the trade-off would be negatively sloped, convex and eventually flat at very low inflation rates (see Akerlof et al. 1996). Maintaining price stability or very low inflation in the presence of even a small amount of downward nominal wage rigidity (for instance, when only 10 to 20 percent of wage changes are constrained) could then generate significant permanent losses in employment and output.

Eckstein and Brinner questioned the traditional view from a different perspective. They speculated that low inflation rates were *partially ignored* by wage- and price-setters. Reviewing US experience from 1955 to 1970, they suggested that, as inflation rose from less than 2 percent to greater than 5 percent, workers showed "increased awareness and concern" with the real purchasing power of their wages, so that past inflation became incorporated more fully into nominal wage contracts. Building on this intuition, Akerlof et al. (2000) offer several reasons and evidence for the tendency of wage- and price-setters to ignore inflation when it increases from zero to a small value. Basically, they argue that the cost to wage- and price-setters of ignoring inflation in this context is negligible, which makes this kind of behaviour "near-rational."

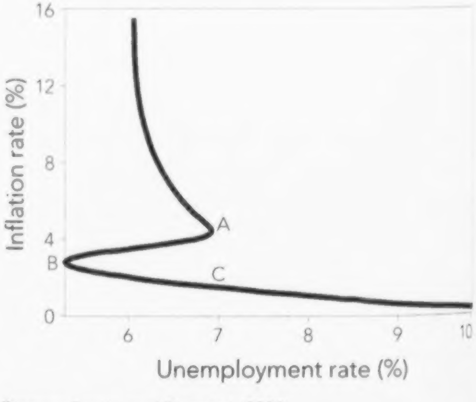
The key implication of near-rational ignorance of inflation is that nominal wages will be set higher in absolute terms, but lower relative to prices, when inflation is positive than when inflation is zero. As a result, operating the economy at a low positive rate of inflation will *increase* the permanent level output and employment. There will be a small one-time decline in the average ratio of wages to prices, which will make it more profitable for firms to hire more workers and produce more output. Formerly disenfranchised workers will be able to join the mainstream labour market. Naturally, when inflation increases, as occurred in the 1970s, the cost of being less than perfectly rational will rise, and people will switch their behaviour to take inflation fully into account. Their behaviour becomes "traditional." As more and more wage-setters adopt fully rational behaviour, the initial output and employment gains begin to evaporate. This means that further increases in permanent inflation will *reduce* permanent output and employment. The important implication of this story, however, is that there is an unemployment-minimizing inflation rate, precisely where permanent output and employment cease to increase and begin to decrease.

Chart 5 shows what happens to the long-run trade-off between inflation and unemployment when Tobin's view on the effect of downward nominal wage rigidities and Eckstein and Brinner's intuition that inflation is partially ignored when it is low are blended together. This picture is drawn from preliminary results obtained by Fortin and Dumont (2000) for Canada, but it is entirely consistent with similar results obtained by Akerlof et al. (2000) for the United States. For inflation rates above 6.5 percent, there is a unique NAIRU as in the traditional case. Its estimated value, 6.1 percent, is the level of unemployment that can be sustained with unchanging inflation in the long run. As permanent inflation falls below 6.5 percent, however, the Tobin wage-floor effect begins to be felt. The trade-off becomes negatively sloped and convex. At around 4.5 percent inflation, the rate experienced in the 1980s, sustainable unemployment reaches a local maximum of 7 percent (point A). Then the Eckstein-Brinner partial-neglect effect sets in and reverses the slope of the curve until unemployment finds its lowest sustainable level at 5.3 percent with an inflation rate of 2.8 percent (point B). As inflation is further reduced, the wage-floor and partial-neglect effects combine to raise unemployment very rapidly: the next 2-point decline in inflation — to 0.8 from 2.8 percent — adds 3.3 points to the unemployment rate.

On this estimated long-run Canadian trade-off, point B, with inflation at 2.8 percent and unemployment at 5.3 percent, is just about the social optimum. Going above point B to higher unemployment and higher inflation on the positively sloped segment of the long-run trade-off is clearly socially inferior. Nor is going below point B on the negatively sloped segment of the curve attractive. The social loss from higher permanent unemployment increases so rapidly that only those who hold extreme views about the cost of inflation would want to move the economy significantly below point B. If, as has been the case in Canada since 1992, the Bank of Canada holds inflation at 1.5 percent (at point C) instead of allowing it to increase into the 2.5 to 3 percent range, the national unemployment rate remains at the 7 percent level and is prevented from declining to 5.3 percent.

CHART 5

Long-run Inflation-unemployment Trade-off with Nominal Wage and Price Rigidities in the Low-inflation Range, Estimated with Canadian Data for 1956-1997



Source: Fortin and Dumont (2000).

This underlines the point that when inflation is very low a *small* increase in inflation can have a *major* beneficial effect on output and employment. Under standard assumptions, the decrease of 1.7 points in unemployment that is predicted to occur when one moves up from point C to point B would generate 340,000 permanent new jobs and a permanent, sustained increase in annual national income of $35 billion. Further evidence supporting the existence and importance of downward nominal wage rigidity in modern economies has recently been obtained from very large microdata sets by Lebow, Saks and Wilson (2000) for the United States and by Beissinger and Knoppik (2000) for Germany. Empirical support for the partial-neglect hypothesis also derives from the vast literature on the inflation-unemployment trade-off from the 1950s and 1960s, and from numerous ethnographic, psychological and industrial relations studies.

The estimates just reported and depicted in Chart 5 suggest that in Canada nominal wage and price rigidities tend to generate a very flat permanent trade-off between inflation and unemployment, in the range of zero to 2.5 percent inflation rates, and to increase unemployment permanently if inflation is allowed to significantly exceed 3 percent. Taking into account the usual statistical uncertainty, the prudent conclusion is that a welfare-maximizing monetary policy should search for the unemployment-minimizing inflation rate in the middle range of 2 to 4 percent, and not below 2 percent nor above 4 percent.

I conclude that the 1.5 percent inflation rate achieved by the Bank of Canada over the past nine years is much too low. The Bank has undershot the official target systematically, and it has set the official target at too low a level. As a result, Canada has experienced a great deal of needless and costly excess unemployment.

There are some who take the 1.5 percent inflation rate and 7 percent unemployment rate recently achieved by Canada as a very satisfactory performance. Often heard are confident statements such as: "Canada's experience in the last few years and that of the United States...in the second half of the 1990s show that low inflation and strong demand can coexist comfortably" (Freedman, in press). The assertion that Canada's recent economic performance is comparable to that of the United States is surprising. As Charts 1 and 2 show, in recent years unemployment has been *much lower* in the United States than in Canada, while CPI inflation has been *higher* in the United States than in Canada, exactly as predicted by the empirical trade-offs I have just reported. Canadian authorities should be loath to assume there are no opportunities for lower unemployment simply because the unemployment rate is currently the lowest in the last quarter century. At present, global economic performance must be judged against the low average unemployment rate of the low-inflation decades of the 1950s and 1960s, not against the high average unemployment rate of the higher-inflation decades of the 1970s and 1980s. By that standard, the United States has been very successful in the last few years, Canada much less so. In terms of Chart 5, the United States is close to point B and Canada is still close to point C.

SUMMARY AND CONCLUSION

The Canadian economy did poorly in the 1990s largely because interest rates and unemployment were too high and inflation was too low. In the late 1980s the Bank of Canada launched its drive toward price stability by raising interest rates sharply. Interacting with the large accumulated public debt, high interest rates eventually generated a full-blown economic and fiscal crisis that lasted until a recovery finally began in 1996. A fiscal-monetary agreement to reduce the debt-to-GDP ratio faster and keep interest rates low — as occurred in the United States — could have avoided the crisis, but unfortunately the two macropolicy levers remained uncoordinated for an extended period. Instead, we had a central bank that looked as if it wanted to teach the fiscal authorities a lesson, and a government that initially appeared unconcerned by the high level of the debt. We have learned from this sad episode in Canadian economic history that inflation targeting does not relieve the central bank and the government from the duty of agreeing on the best policy mix for economic stability and growth. In my view, this presently means a continuation of low interest rates and fiscal surpluses.

During the 1990s, serious difficulties also marked the management of aggregate demand by the Bank of Canada. First, actual output kept falling below potential output because the impacts of interest rate and exchange rate changes on aggregate spending and output were misjudged. Second, due to its excessive fear of actual output exceeding potential, the Bank of Canada tried to keep actual output below its estimated level of potential output. By erring on the conservative side, it was buying insurance against the return of inflation. Third, true potential output was also underestimated because the Bank used an inferior methodology and missed the early downward trend in structural unemployment. All these problems of monetary management imparted a serious deflationary bias to Canadian monetary policy throughout the 1990s. Fortunately, there are indications that some of the problems have been recognized and that solutions are being implemented by the Bank of Canada. For example, the Bank now seems more careful in estimating the reaction of net exports to changes in the exchange rate. Its fear of an early return of inflation also seems less excessive than it was five years ago. And its methodology for estimating potential output now looks at many more indicators than in the past.

A major cause of persistent high unemployment in the 1990s was the very low inflation rate achieved by central bank policy — 1.5 percent on average since 1992. First, in contradiction to the prescription of the 1991 agreement between the Governor of the Bank of Canada and the Minister of Finance, inflation was kept *below* the official target most of the time. Second, recent research based on German, US and Canadian data has raised the possibility that the official target itself (2 percent since 1995) could be *less* than the unemployment-minimizing inflation rate. The bottom line of that research is that, if the inflation target was increased into the 2.5 to 3 percent range from the current 2 percent level, Canada could sustain an unemployment rate of 5.5 percent or less on a permanent basis. This would represent a reduction in unemployment from the current level in excess of 1.5 points, or more than 300,000 permanent new jobs. National income would increase by more than $30 billion annually, which translates into $1.5 trillion on a capitalized basis. The potential payoff is so large that the decision to increase the inflation target into the 2.5 to 3 percent range should be taken even if it has only a small chance of materializing. We have everything to gain and little to lose.

Adopting this strategy would require the Bank of Canada to be opportunistic on the expansionary side and tighten only if there are tangible signs that inflation is beginning to exceed 3 percent and will keep rising. This new approach would bring the Bank in line with the successful strategy adopted by the US Federal Reserve under Chairman Greenspan.

The setting of an official inflation target is not inconsistent with the flexible opportunistic approach to inflation control recommended here. If the game of inflation targeting is retained, Canada should avoid the twin mistakes of setting a rigid long-term target and setting a target of less than 2 percent. Freezing the long-term inflation target is not sensible because what is perceived as the optimal level of inflation will always depend crucially on the state of economic knowledge and economic conditions (e.g., errors in measuring inflation, the growth rate of productivity, changing economic institutions). Both will evolve over time. Setting the inflation target below 2 percent now would amount to a cavalier dismissal of the emerging body of evidence on the potentially important role played by nominal wage and price rigidities at very low levels of inflation. Under the constraint that inflation targeting is to remain the official monetary strategy in Canada, the ideal decision would definitely be to move the current 1 to 3 percent inflation-target range up by a point to the 2 to 4 percent range. A 1.5 to 3.5 percent range would be a fine compromise for now.

NOTE

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Deficit Elimination, Economic Performance and Social Progress in Canada in the 1990s

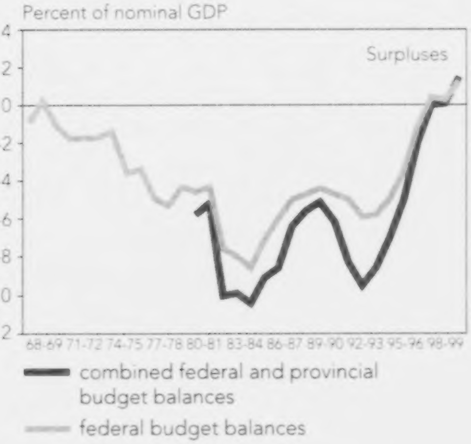
Don Drummond

There are at least two broad issues that must be addressed before the story of deficit elimination in Canada and the impact on economic performance and social progress can be told. First, where to start the story, and second, how to define social progress.

One could begin the story in the 1960s, the last time Canadian governments ran balanced budgets. After that, there was a fairly steady fiscal deterioration through the 1970s and 1980s and into the 1990s. The combined federal-provincial deficit did decline from 10.4 percent of GDP in 1984-85 to 5.1 percent in 1989-90 (unless otherwise indicated, all data are on a public accounts basis), but virtually all of this improvement came from economic growth with only a negligible role from policy tightening over the five years. The combined federal-provincial deficit hit 9.5 percent of GDP in 1992-93 and the combined debt-to-GDP ratio peaked at 98.7 percent in 1995-96. This was followed by a very sharp correction, which saw the combined deficit eliminated by 1997-98 and the debt-to-GDP ratio start to decline. Over this 30-year period, many critical things could be said about fiscal management and its impact on economic performance and social progress. The entire period was characterized by lower-than-average growth than in preceding periods, two deep recessions with a very slow recovery the second time, high unemployment on average and periods such as the late 1980s when fiscal policy was working at a cross purpose to monetary policy. One will not find evidence, in this period, that running large deficits and letting the debt burden soar led to good economic performance.

Alternatively, the story could start from the early 1990s. In this case, one would simply accept the starting point of huge deficits and a very high debt-to-GDP ratio. The question then becomes: Was it wise to take bold actions to eliminate this deficit and reverse the deterioration in the debt burden? Even here, the earlier history cannot be forgotten. It would not be a reasonable test to ask whether the process of deficit elimination improved economic performance. Surely some cost, perhaps only of a transitional nature, was to be expected after such a long period of poor fiscal management. The relevant standard should

CHART 1
Canadian Federal and Provincial Government Budget Balances



Source: Fiscal Reference Tables, September 2000, Finance Canada, TD Economics.

be whether the cost to economic performance outweighed the advantages of correcting many of the problems that built up over more than two decades. It is this latter approach that this article takes. In fact, the starting point chosen for the story is the 1993-94 fiscal year. Although this was the peak for neither the deficit nor the debt burden, it is the year prior to that in which the first serious attempts were made by either the federal or provincial governments to tighten fiscal policy.

The second tricky issue is what is meant by social progress. That is addressed in a separate article in this volume. That article does not advance any particular quantitative measures as being useful. For the most part, this article will address questions of economic performance although some general references will be made to social indicators.

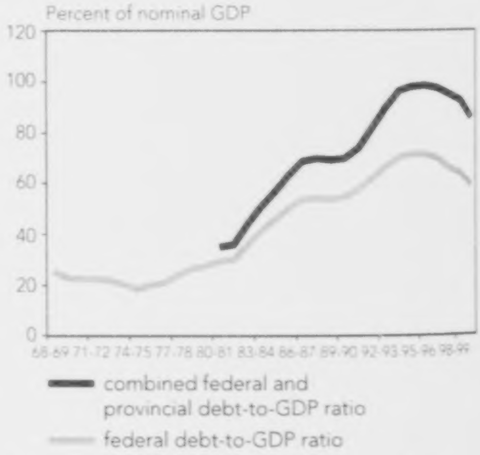
This article will first describe the extent of fiscal tightening after 1993-94. Then it will turn to the impact on economic performance. Finally, some comments will be made on social progress.

MEASURING THE EXTENT OF FISCAL TIGHTENING

The combined federal-provincial (public accounts) budget balance went from a deficit of 8.6 percent of GDP in 1993-94 to a balance by 1997-98. That represents an average annual improvement of 2.15 percent of GDP. Seventy-two percent of the improvement came at the federal level.

In order to analyse the impact of deficit elimination on economic performance, we must identify how much of the improvement came from discretionary policy changes. A standard way of doing this is to look at the changes in cyclically adjusted budget balances (calendar year, national accounts data). This measure removes any changes to budget balances that resulted from the economy

CHART 2
Canadian Federal and Provincial Net Public Debt

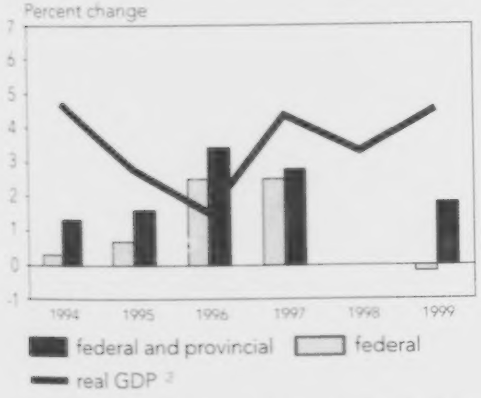


Source: Fiscal Reference Tables, September 2000, Finance Canada, TD Economics.

growing either more slowly or more rapidly than at some longer-run "normal" pace. As such, it isolates the discretionary policy changes. Chart 3 plots the changes estimated by Finance Canada in the cyclically adjusted budget balances at the federal and total government sector. According to these estimates, at both the federal and total government levels, 87 percent of the fiscal turnaround from 1993 to 1997 can be thought of as stemming from discretionary policy changes. This result is somewhat sensitive to the methodology and a variety of assumptions, although the estimates of the OECD (*OECD Economic Surveys: Canada*, August 2000) indicate that the portion attributable to policy change is just slightly less. OECD data also indicate that the discretionary policy tightening in Canada was among the most pronounced episodes over a four-year period in any OECD country.

CHART 3

Changes in Cyclically Adjusted Budget Balances[1]



[1] National Accounts balances as a percentage of GDP at factor cost.

[2] Real gross domestic product in 1992 dollars.

Source: Fiscal Reference Tables, September 2000, Finance Canada, TD Economics.

TABLE 1

Federal and Provincial Government Budget Balances

(Share of nominal GDP)

	Federal	Federal & Provincial	Provincial
1993-94	-5.8	-2.8	-8.6
1997-98	0.4	-0.4	0.0
Total Change	6.2	2.4	8.6
Average Annual Change	1.6	0.6	2.2

Source: Fiscal Reference Tables, September 2000, Finance Canada, TD Economics.

A second methodology would be to compile the estimates of discretionary policy change provided in each budget document. There is a fair bit of arbitrariness to this, however. For example, growth in various department spending profiles can be changed quite radically over time without this being described in a budget document as a discretionary change.

Another approach is to analyse the changes in the major budget components with respect to GDP. This is done in Table 2 for the federal government. In order to measure the impact of discretionary fiscal tightening, a "policy-neutral" case must first be defined. In the case of revenues, this is defined as a constant revenue-to-GDP ratio. Implicit in this definition is the notion that if the government were not trying to reduce the deficit, it would introduce tax adjustments to neutralize the tendency of the revenue-to-GDP ratio to rise over time. This tendency is caused by the interaction of economic growth with a non-indexed tax system. For expenditures, some define a policy-neutral case as program spending maintaining its share of GDP. This implies a

TABLE 2
Changes in Federal Government Operating Balance
(Share of nominal GDP)

	1993-94 Adj.	1997-98 Adj.	1997-98 "Neutral Projection"	Diff. between 97-98 Actual and "Neutral Projection"
Revenues	16.4 [1]	17.4	16.4	1.0
Program Spending	16.6	11.8 [2]	15.1	-3.3
Operating Balance	-0.2	5.6	1.3	4.3

[1] Increased 0.4 percentage points to remove the effect of an extra Canada Child Tax Benefit payment (negative revenue) and the accelerated timing of personal income tax refunds that year.

[2] Lowered 0.6 percentage points to remove the effect of one-time bookings for the Canada Millennium Scholarship Foundation, Hepatitis C compensation, the aboriginal healing strategy and changes in accounting for International Financial Institutions.

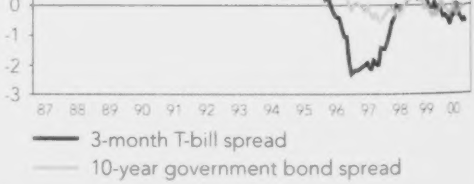
Source: Department of Finance, TD Economics.

steady enrichment of public goods and services over time. Instead, the policy-neutral case is defined here as spending growing with inflation and population — in other words, constant in real per capita terms. Over the 1993 to 1997 period, this means total nominal spending growth averaging 2.5 percent per year. Finally, a few adjustments are made to the actual data to remove special entries largely related to accounting (see the footnote to Table 2). Public debt charges are left out of this analysis because there were no direct policy changes which lowered these payments. In fact, the lengthening of the terms of maturity during a period of a positively sloped yield curve raised the cost of debt financing.

Had the federal revenue-to-GDP ratio remained flat from 1993-94 and program spending been allowed to grow with population and inflation, there would have been an improvement in the federal operating balance (revenues less program spending) of 1.5 percentage points of GDP. After adjustments for various accounting changes, the actual improvement was 5.8 percentage points. So this analysis indicates that about three quarters of the actual federal fiscal improvement stemmed from discretionary policy tightening.

Upon looking at two sources of cyclically adjusted budget balances and the above simple analysis of ratios to GDP, the conclusion that the bulk of the actual fiscal improvement was due to discretionary policy tightening seems very robust. The corollary to this statement is that little fiscal improvement would have been realized through 1997-98 if governments had not taken deliberate action. In other words, in the counterfactual world of no discretionary policy tightening, if economic performance had remained as actually recorded, there would have been very little progress

CHART 4
Canada-US Interest Rate Differentials

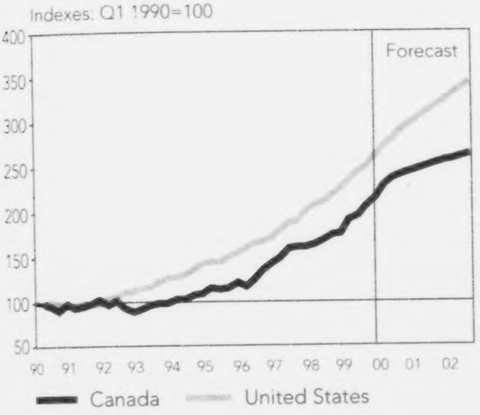


Note: Last month plotted: October 2000.

Source: Bank of Canada, DRI Canada, TD Economics.

CHART 5

Real Business Investment in Machinery and Equipment



Note: Forecast by TD Economics as at September 2000; Actual data to Q2-2000 for Canada and Q3-2000 for U.S.

Source: Statistics Canada, U.S. Department of Commerce, TD Economics.

made in lowering deficits and the debt-to-GDP ratio would likely have continued to rise.

As federal budget surpluses were recorded just four years after serious efforts were begun to eliminate the deficit, it is often suggested that the optimal fiscal policy course would have been a more gradual tightening. With the benefit of hindsight, this at least appears to be a point worth debating. However, the odds were stacked against such an option in 1993 and 1994. Several prior tepid attempts to tighten fiscal policy had not achieved lasting success. In fact, they probably left a net cost due to the loss of policy confidence. Another couple of years of high deficits and a rising debt-to-GDP ratio following 1993-94 may well have contributed further to this loss of confidence. In turn, this could have caused economic performance to worsen.

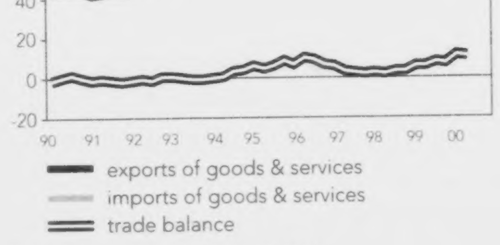
Another counterfactual case often put forward is that fiscal policy would have needed less tightening if monetary policy had been looser. The conduct of monetary policy in the 1990s is addressed elsewhere in this volume. As monetary policy is managed independently by the Bank of Canada, it is taken as a given for the purpose of this article. It must be pointed out, however, that while the policy authorities are separated, the policies are not. Poor fiscal performance was one of the factors keeping interest rates up in Canada. It is to this, and the link from fiscal policy to other economic indicators, that we now turn.

ECONOMIC PERFORMANCE DURING THE PROCESS OF DEFICIT ELIMINATION

We now need to estimate, or at least make inferences about, the impact of the discretionary policy tightening on economic performance. Ideally we need to infer what

CHART 6

Canadian Trade Balance



Note: Last quarter plotted: Q2-2000.

Source: Statistics Canada, TD Economics.

economic performance would have been in the absence of the policy tightening. Of course we don't have a neat, controlled experiment to do this, although we do have a long sample period when rising deficits and debt burdens were associated with sub-par economic performance. We could assume that changes in the cyclically adjusted budget balances have a one-for-one impact on economic output. This would amount to assuming a fiscal multiplier of one. However, there is no sound basis upon which to make this assumption. Various econometric models could be used to estimate the multiplier, but the results would be very sensitive to model specification and assumptions. This article will take a more descriptive and hence subjective approach.

First, let us look at recent economic performance six years after the intensive efforts at deficit elimination began. The economy grew very steadily through the end of 2000. By virtually any estimate of potential output, the economy was very near to closing or had finally closed the output gap that opened in the early 1990s, the unemployment rate was close to a 25-year low, inflation was low, interest rates were below US levels, investment was booming and we had a record current account surplus. In short, there was not much wrong with this picture. So if there has been an economic cost to deficit elimination, it must have been transitional.

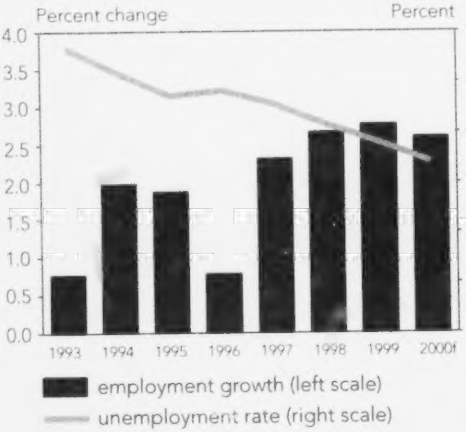
The effects on policy flexibility have already become abundantly clear as well. The federal government and most provincial governments have the luxury of choosing how to allocate surplus funds to tax relief, higher program spending or faster debt retirement. The lower public debt burden helps foster the capital formation needed in this economic environment of rapidly changing technologies.

Let us now look at the shorter run to see how the economy absorbed what amounted to a 9 percent of GDP swing in the total government cyclically adjusted budget balance from 1993 to 1997. Real GDP grew 4.7 percent in 1994 before two shaky years of 2.8 and 1.5 percent and then rebounded to 4.4 percent in 1997, for a four-year average of 3.4 percent. While the economy could have performed better given the large output gap, growth at around the potential pace wasn't bad considering the extent of fiscal tightening.

The components of growth provide clear evidence of a classic case of fiscal "crowding in." That is, the private sector stepped up to replace the demand withdrawal from fiscal retrenchment. First, for the first time in decades Canadian interest rates fell below their US counterparts. This occurred first for short-term maturities and then for longer-term issues as the yield curve flattened. In fact, by late 2000 segments of the yield curve were negatively sloped despite a robust economy. The maintenance of low inflation is a factor, but no doubt improved fiscal performance in the United States and Canada has played a role. The Bank of Canada has acknowledged on many occasions how helpful the fiscal tightening was to efforts to get Canadian interest rates down. For example, in a speech to the Canadian Society of New York, on 9 March 2000, Governor Thiessen said, "As progress was made in restoring fiscal credibility, the Bank of Canada was able to lower its policy rate during 1996-97, to levels well below the comparable US Federal Reserve rate. Both market interest rates and the exchange rate

CHART 7

Canadian Labour Market Performance



[f] forecast by TD Economics as at October 2000.

Source: Statistics Canada, TD Economics.

moved down in response, helping to stimulate foreign and domestic demand and so moderate the effects of fiscal restraint on economic activity" (p. 3). Second, after lagging badly behind the United States since the beginning of the 1990s, investment started to revive, particularly in machinery and equipment. This offered the hope of Canada soon enjoying the kinds of productivity growth the United States has been experiencing for several years. Third, the Canadian trade balance improved enormously, with the strong growth in the US economy helping quite a bit of course.

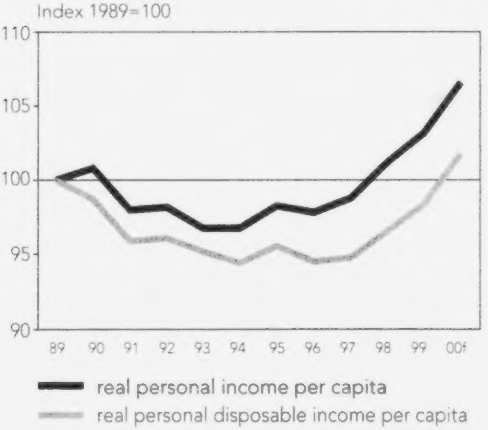
So economic performance was pretty good during the years of deficit elimination and got even better once the deficits were gone. We will of course never know what the performance would have been had serious steps not been taken to tighten fiscal policy. But as the deficit would have remained large with a rising debt-to-GDP ratio, it can be argued that we would not have got interest rates down as much and business and consumer confidence would not have strengthened to the same extent. At best the Canadian economy would have returned to its potential level of output somewhat earlier. Even this is not clear. What is clear is that the fiscal situation would have remained problematic.

THE NATURE OF THE FISCAL TIGHTENING AND SOCIAL PROGRESS

There is a debate over how far strong job creation can go in addressing issues of "social progress." However, one thing is certain. It can't hurt. Chart 7 shows that employment grew throughout the period of deficit elimination and the unemployment rate fell steadily. Employment did not expand rapidly enough, however, to raise real personal income per capita, and on an after-tax basis this measure of income continued to fall until 1997. However, both measures have now recovered to the peak levels of the beginning of the 1990s, and with employment and wages continuing to rise, while taxes are being cut, disposable incomes should continue to grow.

Throughout the 1990s the distribution of income moved away from the lower end towards the higher end. However, this likely had much more to do with changes in the economy and in particular the rising education and skill requirements for new jobs and the strength in the stock market than with fiscal policy. Even to the degree fiscal policy had a role, it would be difficult to say that the process of deficit elimination was the root problem. The deficit could have been elimi-

CHART 8
Canadian Living Standards



f forecast by TD Economics as at October 2000.
Source: Statistics Canada, TD Economics.

nated in a variety of ways, each having differing impacts upon income distribution. That is the question we now turn to.

So far, deficit elimination has been analysed from an aggregate or macroeconomic perspective. But can it be argued that the fiscal tightening hurt economic performance and social progress because of the particular manner in which it was done? It would be hard to make this case on the revenue side. There were very few revenue-raising actions taken over the period of deficit elimination. In fact, the only rate increase was for the excise tax on gasoline. There was some base broadening, but this largely affected corporations and higher-income individuals, not the usual fodder for criticisms on social progress. So if there is a negative case, it must rest on the program spending side.

For the federal government, aggregate program spending in nominal dollars was reduced from $120.0 billion in 1993-94 to a low of $104.8 billion in 1996-97, before rising to $108.8 billion in 1997-98 and then $111.8 billion in 1999-2000. If we take out the $5.5 billion of one-time entries in 1997-98, program spending would have stayed down at $103.3 billion that year. In contrast, if program spending had grown with population and inflation since 1993-94, it would have stood at $132.6 billion in 1997-98. So without a doubt the cuts to spending were substantial. Of course, some of this was due to economic growth. For example, of the $16.7 billion decline in spending from 1993-94 to 1997-98 (after removing the $5.5 billion of one-time entries), $5.8 billion came from lower Employment Insurance benefits and, in turn, about one half of that decline came from lower unemployment. Even the roughly $3 billion of benefit tightening from discretionary policy change should not be interpreted as being a pure drag on economic performance. The tightening was designed to improve the incentives to work and in particular to shift from seasonal to more year-round employment.

Table 3 shows the changes in program spending from 1993-94 to 1997-98 by major component. Old age security payments were not subject to restraint and hence grew with the relevant population and inflation. EI benefits were discussed above. Transfers to provinces fell $6.4 billion. Beginning in the 1980s, various measures were introduced to curtail the growth of transfers to the provinces. In particular, as of 1990 the Canada Assistance Plan payments to the non-equalization-receiving provinces were restrained. Effective in 1996-97 the transfers were consolidated into the Canada Health and Social Transfer. This ended any statutory cost-sharing between the two levels of government. The CHST is notionally for health, post-secondary education and social programs. However, it is a block fund and can be used in any fashion the provinces wish. That being said, there is no doubt that cuts to these transfers were a catalyst for a good part of the restraint exercised by the provinces in health care, post-secondary education and welfare. To the degree that fiscal restraint led to some needed financial reforms in the health-care sector, there is one offsetting benefit. However, there can be no denying that health care, post-secondary education and welfare are areas where deficit elimination hurt and hence a case can be made that these cuts impeded social, and economic, progress for a time. It should be noted that the cash transfers to the provinces under these programs will soon be restored to the previous peak levels and will grow with an escalator. As well, it should be noted that the federal government has contributed in these areas in other ways, such as directly funding university-based research through the endowment of the Canada Foundation for Innovation, and supporting students through enhanced tax measures and the Canada Millennium Scholarships. The federally funded Canada Child Tax Benefit will soon reach $7 billion on an annual basis whereas the former Family Allowances never exceeded $2.8 billion. The increased federal support has not only boosted incomes for families with children but has allowed the provinces to divert their funding away from income support to in-kind services to ensure that people do not lose benefits when they become employed.

TABLE 3

Federal Government Program Spending

(Billions of dollars)

	1993-94	1997-98	Change
Total Program Spending	120.0	108.8	-11.2
Old Age Security	19.9	22.2	+2.3
Employment Insurance Benefits	17.6	11.8	-5.8
EPF/CHST	16.8	10.5	-6.3
Fiscal transfers (incl. equalization)	10.1	10.0	-0.1
Other transfers and subsidies[1]	18.5	22.5	+4.0
Crown corporations[2]	5.3	2.5	-2.8
National Defence	11.3	8.9	-2.4
Other departments and agencies	20.5	20.3	-0.2

[1] The 1997-98 figures include $5.5 billion of one-time entries which would not be expected to have an economic effect in that year. Excl. these entries, other transfers and subsidies fell $1.5 billion.

[2] Only $0.6 billion of the decline from 1993-94 to 1997-98 relates to cuts from program review. For 1993-94, large entries were recorded to cover prior-year losses whereas by 1997-98, many crown corporations were making a profit.

Source: Fiscal Reference Tables, September 2000, Finance Canada, TD Economics.

After removing the $5.5 billion of one-time entries, subsidies and other transfers fell $1.5 billion. Within this category, there was a large shift away from business subsidies, which were cut 70 percent under Program Review, towards support programs, such as those for aboriginals, which continued to grow rapidly throughout the period. Expenditures relating to Crown corporations went down substantially, but only $0.6 billion of that relates to cuts under Program Review. The rest stems from large provisions recorded in 1993-94 to capture prior-year losses, whereas by 1997-98 many of the corporations were making a profit. National Defence spending was pared down substantially and the total of all other operating expenditures hardly changed at all despite the population growth and inflation over the four years.

This review of program spending indicates that efforts were made to preserve spending in a number of areas typically thought to relate to social progress. In some areas where the cuts were quite deep, such as health care, funding has largely been restored. There is no doubt that if one were to go a layer further in the program detail, one would find many examples of deep cuts, or outright elimination of programs related to social policy. But it is important to recognize that one of the reasons why the federal government's deficit-elimination effort was broadly accepted, indeed encouraged, by Canadians is that it was seen as broad. It can be argued that more selectivity in the cuts would have risked undermining that support and hence made the effort much more difficult politically to accomplish.

CONCLUSION

All in all, one would have to say that the experience of deficit elimination worked out very well, likely better than almost any observer in the early 1990s, including governments, would have thought. The economy has performed well in terms of output and employment growth and the unemployment rate has come down sharply. Not only is the deficit eliminated at the federal and total government sector level, but the debt burden is down sharply. This presents much more choice going forward than could have been dreamed of a few years ago. As just one example, instead of 36 cents of every federal revenue dollar going to debt payments, it is now 25 cents. That is still way too high, but it frees up 11 cents on the revenue dollar for lower taxes, higher program spending or faster progress on debt retirement. The lower public debt burden as well as the shift in government spending from a consumption-base (such as subsidies) to an investment base (such as research) will foster the capital formation the economy needs to raise its potential output growth rate.

It would be foolish to argue that there was no pain from the experience. After all, what could be expected after the depth of the fiscal mess by 1993-94? Some of the signs of that pain are apparent on the program side, such as problems in the health-care sector and underfunded post-secondary education. On the economic front, changes in the economy skewed the income distribution more to the higher end and governments may not have been as free to support those with lower incomes had they not been in deficit-elimination mode. However, at the very worst, the charge against deficit elimination is that there was some short-term pain to secure substantial long-term gain.

The Economic and Social Consequences of Fiscal Retrenchment in Canada in the 1990s

Jim Stanford

INTRODUCTION: WHAT DOES GOVERNMENT DO?

Contrary to the overheated rhetoric of certain conservative politicians, governments were not placed on this planet to waste money. Similarly, taxes are not some burden of mythical proportions which just appeared one day on the shoulders of citizens, who have since laboured to carry it. Rather, we pay taxes because we collectively *choose* to pay taxes, in order to finance the public provision of goods and, mostly, services which citizens believe to be useful and valuable. Over time, citizens have explicitly empowered their governments with mandates to collect taxes primarily in order to finance activities and services which are deemed to be inadequately supplied by private economic agents alone. This paper will consider the social and economic consequences of government taxing and spending activities, focusing particularly on the historic decline in that activity which has occurred coincident with the mid-1990s effort to reduce and eliminate government deficits.

The focus is on the general level of fiscal activity, not on imbalances between the taxing and spending sides of that activity. Most analysts would agree that in the long run the maintenance of some form of balanced budget — or at least the attainment of some measure of stability in public indebtedness — is a socially and economically beneficial goal.[1] A long-term secular rise in the ratio of public indebtedness is obviously not sustainable. So the issue is not *whether* budget imbalances will be eliminated, but *how*. In the Canadian experience of the mid-1990s, budget deficits at the federal level and in virtually every province were eliminated primarily by reducing program expenditure.[2] The decision to balance budgets in Canada, therefore, was coincident with the decision to significantly downsize government program activity. It is the social and economic consequences of this downsizing, not of the balancing per se, that is the focus of this paper. It is obviously conceivable that budgets could have been brought into balance without reducing program expenditures (by raising taxes, by lowering interest rates and/or by simply waiting for the beneficial impacts of economic growth on public finances), and so the decision to balance the budget and the decision to downsize the program activities of government should hardly be treated as synonymous.

The forms of government fiscal activity are many and varied, of course. But for the purposes of this paper, with its focus on the economic and social consequences of government taxation and spending, the following four categories can be considered.

- **Discretionary Counter-Cyclical Fiscal Policy.** Many government fiscal activities have inherent counter-cyclical properties (so-called built-in stabilizers). At various times, discretionary fiscal policy has also been conducted to attempt to smooth out, more proactively, swings in private business activity. This discretionary activity has fallen out of favour, however, for various reasons such as information uncertainty and lags in the design and implementation of policies. There may be opportunity for careful experimentation in the future with discretionary counter-cyclical fiscal activities.[3] For now, however, explicit counter-cyclical fiscal policy has largely been abandoned.
- **Provision of Pure Public Goods.** Even neoclassical economic theory admits a role for government fiscal activity, in relatively rare cases of true market failure. Some modern government functions roughly fit the description of true public goods (perhaps including policing and defence services), but most clearly do not. Most of the services which government provides (including highly valued health and education services) could clearl be provided through private marke structures, since the utility of thei consumption can be "efficiently" trans ferred to the private purchaser of th service, and that utility can be denie to non-purchasers. The reason thes services are provided through publi channels is the widespread concer regarding the distributional conse quences of private service provisio (buttressed, in some cases, by concer over the administrative waste of privat insurance schemes). Very little of cur rent government activity can be justi fied using pure arguments regardin public goods and market failure.
- **Regulatory and Industrial Polic** Canadian governments have tradi tionally invested considerabl resources in efforts to reshape th structure and behaviour of the pri vate-sector economy through variou forms of regulation, subsidy and — more rarely — outright public own ership of businesses. Again, this cat egory of government fiscal activit has diminished significantly in recen years, in the face of fiscal restraint and concern about the efficiency c some of these activities.[4]
- **Redistribution of Cash an Consumption.** I would argue that mo modern government fiscal activity no fits into the broad category of efforts t redistribute both cash income an access to final consumption (includin the consumption of non-cash publ services), in the interests of great equality, basic security and social incl siveness. This is explicitly true f

transfer payment programs, which redistribute cash income on the basis of concerns regarding equity and economic security for those (such as children, the elderly and the unemployed) whose market incomes may be inadequate to meet basic income standards.[5] This is also clearly the case for the "big ticket" social programs such as health care and education. These services could be provided through private markets, but public concern over the immense personal consequences for those who might be unable to access those services through a private market system has led to public provision. In this case, again, the motive is clearly redistributional in nature: to provide Canadians (especially those of lower and moderate incomes) with more health, educational and other "human" services than they would be able to purchase through private market transactions. Even more mundane forms of government program activity — such as garbage collection, transportation infrastructure, recreational facilities and environmental protection — are aimed at providing Canadians of modest means with more of these particular forms of consumption than they would typically be able to access through private market transactions alone.

This redistributive motive for government fiscal activity carries various broader economic effects. For example, public provision of education may result in a better-educated population than would be possible with private education systems; alternatively, some of these programs (and/or the tax systems which are constructed to pay for them) may have non-discretionary (or "automatic") counter-cyclical effects. But the primary goal is one of redistribution and improved access: to provide lower- and middle-income Canadians with more of certain types of consumption than they would otherwise be able to afford, and to reassure better-off Canadians that they will receive those programs should their personal economic circumstances take a turn for the worse. The degree to which this general goal is fulfilled by government fiscal activity is likely to have suffered, therefore, with the overall reduction in government taxing and spending activities which occurred in the 1990s.

THE SOCIAL AND ECONOMIC EFFECTS OF TAXING AND SPENDING

Consumption of Public Services

The direct provision of public services consumed a total of $205 billion in 1998, equal to just under one quarter of GDP.[6] On average, then, each household in Canada received some $16,320 worth of publicly provided non-cash services (defined here simply as the value of all non-transfer public program spending). The distribution of public service consumption across income brackets is difficult to estimate; no data on this subject are available.[7] Some types of public services are targeted at lower-income Canadians (such as social services); other are used most intensively by higher-income Canadians (such as universities); many services would seem to be equally consumed by all Canadians, regardless of income (such as recreational or cultural facilities). In the analysis that follows, we will adopt the sim-

TABLE 1
Public Consumption Per Household, 1998

Non-cash public services delivery per household:
$16,320

Quintile	Average Household Disposable Income	Government Consumption as % Disposable Income
Lowest	$10,017	163
Second	$21,960	74
Third	$33,374	49
Fourth	$48,778	33
Highest	$85,606	19

Source: Author's calculations from Statistics Canada, *Income in Canada, Canadian Economic Observer.*

plifying assumption that every Canadian income bracket consumes a roughly equal proportion of non-cash public services. To the extent that public services are consumed disproportionately by lower-income households, this assumption will understate the extent of redistribution that is occurring through government fiscal activity; the reverse is true if public services are accessed more intensively by higher-income Canadians.

Table 1 indicates that even an equal per capita consumption of public services still contributes disproportionately to the final consumption possibilities of lower- and middle-income Canadians. For the lowest quintile of Canadian households, their consumption of non-cash public services more than doubles their total household consumption possibilities (relative to the private consumption possibilities provided by their total disposable cash income, including government transfers). Even for the middle quintile of Canadians, their share of non-cash public services is equivalent to 50 percent of their total private (cash) consumption possibilities.

The obvious objection, of course, is that not all government consumption actually contributes to the quality of life of Canadian households. This is certainly the case — but it is also true of private consumption spending. Not all private consumption spending is useful; much is wasted (because of poor quality, incomplete information or inefficient pricing). The unique aspect of public or collective consumption is that it presupposes some kind of collective choice mechanism, and hence each individual does not have full control over the public consumption decisions which affect him or her; yet private consumption decisions are similarly constrained by the structure of individual decision-making power (such that access to benefits or efficiencies which might arise from collective forms of consumption are not available in a purely individualized consumption framework). So long as normal democratic processes are at work to ensure that a larger share of government spending is dedicated to concretely useful services, and a smaller share to boondoggles, it seems reasonable to conclude that citizens will collectively ensure that they get value for their money in non-cash public services, just as they continually strive to get value for their money in their personal cash spending. Moreover, to the extent that some services (such as health care) may be provided more efficiently through public delivery systems than private ones, then this analysis understates the improvement in living standards that results from the consumption of public non-cash services (since it would take an even larger amount of private cash purchases to attain the same consumption of services through private delivery means).

TABLE 2
Taxes and Transfers Per Household, 1998

Quintile	Market Income	Government Transfers	Transfers As Share Total Income	Direct Taxes	Taxes As Share Total Income	Net Cash Effect of Taxes & Transfers
Lowest	$3,993	$6,696	63%	$671	6%	+$6,025
Second	$16,211	$8,367	34%	$2,619	11%	+$5,748
Third	$32,979	$6,801	17%	$6,406	16%	+$397
Fourth	$55,417	$5,176	9%	$11,815	19%	-$6,639
Highest	$109,116	$4,258	4%	$27,768	24%	-$23,510

Source: Author's calculations from Statistics Canada, *Income in Canada*, *Canadian Economic Observer*.

The Redistribution of Income and Consumption

The most explicitly redistributive aspect of government fiscal activity is the system of personal taxes and transfer payments to individuals. Canada's personal income tax system is highly progressive; in 1997 (the most recent year for which final income tax data are available), almost 60 percent of total income taxes were paid by the highest-income 10 percent of the population, while the lowest-income 60 percent of Canadians paid only 10 percent of all income taxes.[8] Other direct taxes in Canada are less progressive, or even regressive, in their burden. Meanwhile, transfer payments to households are also distributed on a progressive basis (due to the lower average incomes of the recipients of many transfer programs, such as Employment Insurance and the Guaranteed Income Supplement, and due also to the means-testing features of many transfer programs). The lowest-income quintile receives 50 percent more transfer income per household than the highest-income quintile — and that transfer income constitutes a much larger share of total household income for lower-income households (equalling two thirds of total income for the lowest quintile, versus less than 4 percent of total income for the highest quintile). The combined effect is a significant redistribution of cash income down the income ladder. As indicated in Table 2, the net effect of direct taxes and transfers increases the disposable cash income of the lowest quintile of Canadians by some $6,000 per household (nearly tripling their pre-tax "market" income). On the other hand, it reduces the disposable income of the highest quintile of households by $23,500 per household, or about 20 percent.

CHART 1
Government and Inequality

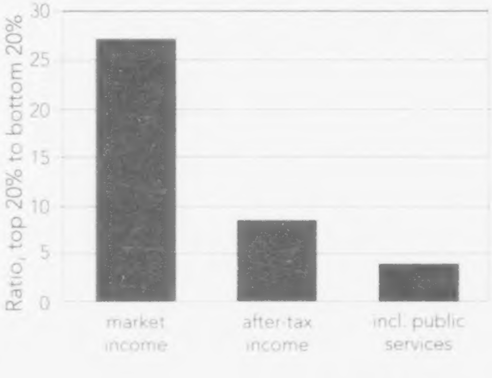


TABLE 3
Tax and Benefit Balance Sheet, 1998

Quintile	Direct Taxes [1]	Estimated Consumption Taxes[2]	Cash Transfers	Net Cash Gain or Loss	Non-Cash Public Services	Net Gain or Loss
Lowest	$671	$1,503	$6,696	+$4,522	$16,320	+$20,842
Second	$2,619	$3,294	$8,367	+$2,454	$16,320	+$18,774
Third	$6,406	$5,006	$6,801	-$4,611	$16,320	+$11,709
Fourth	$11,815	$7,317	$5,176	-$13,956	$16,320	+$2,364
Highest	$27,768	$12,841	$4,258	-$36,351	$16,320	-$20,031

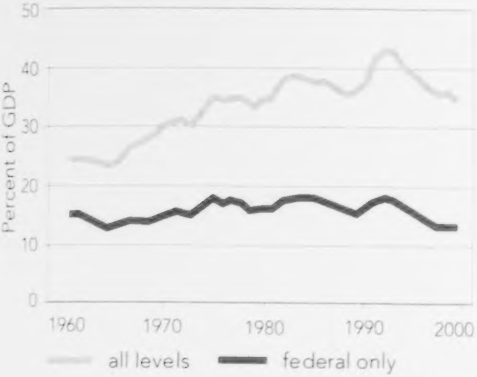
[1] Direct taxes include income taxes and social insurance payroll deductions.
[2] Estimated as 15 percent (the average combined federal and provincial sales tax rate in Canada) of after-tax-and-transfer disposable income; actual consumption taxes are lower for households, such as higher-income households, which save more of their disposable income.
Source: Author's calculations from Statistics Canada, *Income in Canada, Canadian Economic Observer.*

Together with the provision of non-cash public services, this tax-and-transfer system results in a very significant net redistribution of both cash income and final consumption possibilities. Chart 1 indicates that the top quintile received pre-tax or "market" income equal to some 27 times the pre-tax income of the lowest quintile. This inequality of pre-tax income has grown significantly over the past two decades. After taxes and transfers, however, the ratio of inequality falls to 8.5 to 1. This ratio of disposable income inequality stayed more or less constant, despite rising market inequality, until 1995, when it began to rise moderately. And when the per capita value of non-cash public services is added to the equation, the ratio of inequality in final consumption possibilities falls to less than 4-to-1. Total government fiscal activity, therefore — considering both cash taxes and transfers, and the provision of non-cash public services — has the combined effect of reducing this particular measure of inequality in Canadian society by about 85 percent.

Table 3 indicates that the bottom tw
quintiles of households receive, on averag
more cash back from government in the forr
of transfers than they pay to government i
income taxes, payroll deductions and cor
sumption taxes.[9] In this immediate sens
government "pays off" for the lower-incom
40 percent of society. Even for the middl
(third) and upper-middle (fourth) quintile
once the value of non-cash public services
considered, households on average still ge
more back from government than they pa
in income taxes, payroll deductions and con
sumption taxes (on the continued assump
tion, of course, that these household
continue to view those non-cash governmer
services as useful). Only the highest quintil
of society pays more in income taxes, payro
deductions and consumption taxes than
receives back from government fiscal activit
making a net contribution of some $20,00
per household.[10]

Even if the approximate tax costs p
household were grossed up to reflect the bu
den of other taxes not considered here (suc
as property and corporate taxes), it is cle

CHART 2
Government Program Spending



that the bottom 60 percent of Canadians are net beneficiaries of the taxing and spending activities of government, while the upper-middle quintile of Canadians roughly "break even." This result reflects the highly progressive nature of the Canadian income tax system, and the targeted nature of many cash transfer programs.

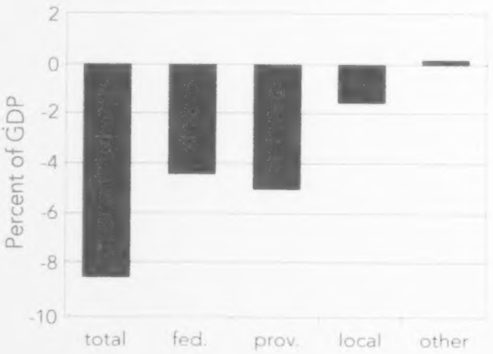
THE RETRENCHMENT OF TAXING AND SPENDING

Coincident with the effort to reduce government deficits at all levels during the mid-1990s, the program activity of Canadian governments experienced a historically unique reduction beginning in the mid-1990s. Ironically, this shrinkage in the relative and even absolute size of government program spending continued through the end of the decade, even after the attainment of fiscal balance and the generation of large surpluses. This immediately suggests that to some degree the downsizing of government programs was motivated by something other than solely concern with government deficits.

Since 1992, program spending by all levels of government in Canada (on a national accounts basis) has fallen by approximately one fifth, measured as a share of GDP — from an all-time peak of 43 percent of GDP in 1992 to 34 percent in 1999 (see Chart 2). The program spending share has fallen further since then. At the federal level alone, program spending has fallen somewhat more sharply, by about one quarter — from a peak of 17.9 percent of GDP in 1992 to some 13.5 percent of GDP in 1999. In either case this represents by far the most significant rollback of real government program activity in Canada since the end of the huge military effort in World War II.

The retrenchment in program activity was experienced broadly at the federal, provincial and municipal levels of government (see Chart 3). Some "other" government sector agencies, such as pension plans and hospital boards, maintained their program spending as a share of GDP. As a proportion of GDP, the provincial level of government experienced the largest reduction in program activity, shrinking by almost 5 points of GDP during this period. Local governments reduced their program activity by close to 2 points of GDP.

CHART 3
Change in Program Spending, 1992–99



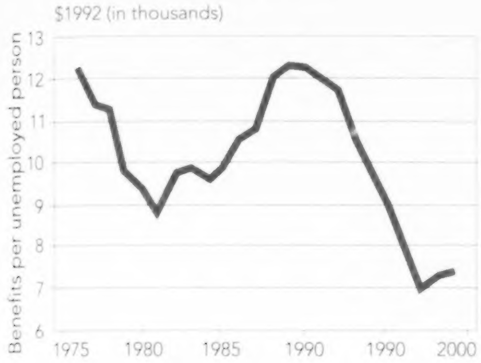
The total government sector and most components within it have experienced balanced budgets (on a national accounts basis) since 1997. This has meant that the worst of the program spending retrenchment which was experienced in the mid-1990s is now over. Nevertheless, the decline in program spending activity by Canadian governments, relative to the size of the overall economy, shows no sign of easing. Indeed, the federal government has explicitly *pledged* that its program spending will continue to decline as a share of GDP in the coming years.[11] At the federal level (despite campaign promises to the contrary) the clear majority of discretionary funds will be allocated to tax cuts, rather than enhancements in program activity;[12] this will ultimately reinforce the decline in the importance of program spending. There is no indication, in summary, that the declining trend in the total government program spending share has stopped, even though deficits have apparently been vanquished and the public debt burden (measured appropriately as a share of GDP) is declining rapidly.[13]

Some of the reduction in program spending (measured in both relative and absolute terms) is obviously attributable to the strong expansion in Canada's economy in the last couple of years. Broader economic growth has the effect of expanding GDP (the denominator of the program spending share) and reducing some cyclically sensitive program expenditures (such as transfer payments to unemployed persons). However, the cyclical component to the observed decline in the importance of program spending should not be overemphasized. Clearly a deep structural shift in the role of government programs in Canadian society has occurred. While the program spending share is likely to rebound to some extent in the event of a future economic downturn (reflecting both contraction in the GDP denominator and normal cyclical increases in certain types of spending), it is unlikely that this would offset much of the one fifth decline in the program spending share which has been observed since 1992.

For example, employment insurance benefits are perhaps the most directly counter-cyclical form of government transfer payment (rising automatically in the event of a downturn, falling when unemployment abates with economic recovery). Regular EI benefits have fallen by more than 50 percent since peaking in 1993; in real per capita terms, they have fallen even further. This retrenchment in one of Canada's most expensive social programs has been an important source of the federal government's fiscal improvement (accounting for over 1 full point of the decline in program spending as a share of GDP since 1992, or one quarter of the federal government's bottom-line fiscal improvement during that time). Clearly the reduction in unemployment (by some 450,000 persons between 1993 and 1999) has been important in that decline. But even more important have been deep structural changes in the EI system itself, which have reduced eligibility and benefit levels. For example, real EI benefit payments were 40 percent lower in 1999 than in 1990 (mostly due to the declining coverage of the program, and only slightly due to declining real benefits for those who are covered) — even though the number of total unemployed was roughly equal in the two years. Chart 4 illustrates the stark decline in the level of real EI benefits paid out per unemployed person in Canada (a rough indicator

CHART 4

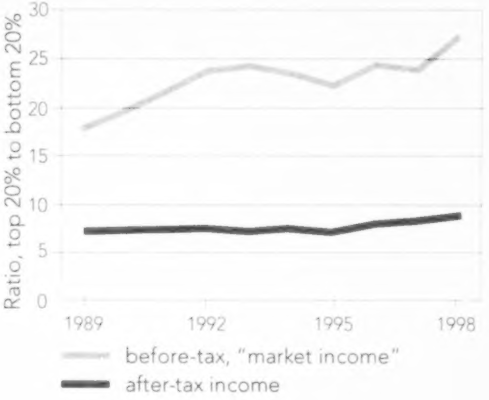
Structural Change in EI Benefits



of the overall "generosity" of the EI program) since 1990, to levels not seen since well before the path-breaking UI reforms of 1971. Even in the event of a serious recession, therefore, the increase in program spending by this most cyclically sensitive of government programs will be modest by historical experience. Increasing unemployment by 50 percent (as occurred, for example, during the 1991-92 recession) and holding real average benefit levels constant would result in an increase in EI-related program spending of less than one half percent of GDP — offsetting barely one twentieth of the decline in the program spending share that has been observed at all levels of government since 1992. The trend indicated in Chart 2, therefore, can only be interpreted as primarily structural in nature.[14]

Regarding the direct provision of non-cash public services (rather than transfer payments), some analysts have argued that this provision has not declined to the same extent as real program budgets, due to downward flexibility in the effective real "costs" of those services (measured in terms of public expenditure per unit of real service delivery).[15] Consider Canada's education system, for example, which has digested significant budget reductions during the 1990s: total public education spending per enrolled student, in real terms, declined by 5.7 percent between 1994 and 1997, and probably more since then.[16] About 40 percent of this decline in public spending was offset by a 16 percent increase in private fees and other revenues, but bottom-line budgets for educational institutions in Canada still shrank by 3.4 percent in real per student terms. A good portion of that funding decline has been reflected in declining real wages for teachers and other educational workers. For example, the average real weekly earnings of teachers and others employed in elementary and secondary schools declined by over 13 percent between 1993 and 2000.[17] At the same time, the ratio of elementary and secondary students per full-time teacher employed in the industry (which might be considered as a broad measure of average classroom sizes) hardly changed at all. This would imply that teachers and other education workers have "absorbed" much of the decline in public funding in the form of lower real incomes, thus insulating the level of real service provision — for a while, anyway. Some caution must be taken, however, before concluding that real public service provision has not been harmed by the funding cutbacks. In the first place, the sharp decline in real incomes for teachers and other public service workers has generated immediate losses among those workers, their families and their communities. Secondly, the decline in real incomes for those workers will certainly have a major impact on the quality of the work which they are performing; eventually, declining real incomes will make it increasingly difficult for schools to attract and retain qualified

CHART 5
Measures of Inequality



work effort of those teachers who remain employed.[18] In this manner, the decline in financial support for education and other public services will ultimately be reflected in a deterioration in the quantity and quality of public service delivery, on top of their more immediate impact on the real incomes of public service providers.

The retrenchment of public sector fiscal activity in Canada is significantly altering this country's standing in international comparisons of this subject. Program spending at the federal level is now significantly smaller, relative to GDP, than is the case in the United States, although lower-level program spending in Canada is still twice as great proportionately as in the US (reflecting both the relatively decentralized nature of government in Canada and the greater importance here of public services such as health care which are provided in Canada by lower levels of government). As recently as 1995, Canada ranked in the middle of all OECD countries in terms of program spending as a share of GDP; now we rank among the lower third of countries by this measure, with a program spending ratio significantly lower than the OECD average.

THE SOCIAL EFFECTS OF PROGRAM RETRENCHMENT

Within another two or three years, program spending by government in Canada will likely have reached its lowest level (as a share of GDP) in three decades. Not since the 1960s will Canada have experienced such a low level of government fiscal activity, relative to the size and growth of the overall economy. Since it was in the 1960s and 1970s that welfare-oriented interventionism reached its peak in Canada, and we developed an international reputation as a "just society," the long-run social implications of this unprecedented rollback in government fiscal activity are likely to be significant.

Many data on key social indicators are published with a lag of two or more years, and the effects of government spending reductions on those indicators will generally not be felt for some time. As a result, the impact of the mid-1990s fiscal retrenchment on social variables is only just becoming visible. At the same time, the strong economic and labour performance that Canada has enjoyed since 1998 is helping to offset some of the negative social consequences of that retrenchment. Nevertheless, there are some worrisome signs of deteriorating underlying social conditions in Canada that will need to be monitored carefully in coming years.

Transfer payments to individuals have declined moderately in real terms since 1994, as summarized in Table 4. Canadian households, on average, lost some $400 per year (in 1998 dollar terms) of government transfer income between 1994 and 1998, representing about 1 percent of their disposable income. This decline was felt most strongly among the bottom two quintiles of the income ladder, both of whom lost some 4 percent of their real 1998 disposable income to transfer payment reductions over the previous four years.

TABLE 4

Decline in Transfer Income Per Household, 1994–98

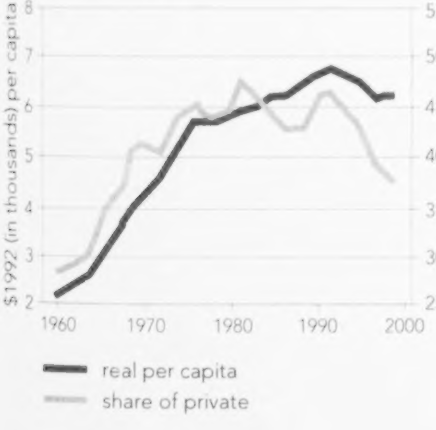
Quintile	Change Real Transfer Income, 1994–98 ($1998)	Decline as Share 1998 Disposable Income (%)
Lowest	-$391	3.9
Second	-$902	4.1
Third	-$210	0.6
Fourth	-$381	0.8
Highest	-$93	0.1
Average	**-$395**	**1.0**

Source: Author's calculations from Statistics Canada, *Income in Canada*.

During the same period, Canada experienced the first notable increase in the inequality of after-tax disposable income in recent decades — despite the positive distributional effects resulting from the strengthening of labour markets. As noted above, the tax-and-transfer system has traditionally offset much of the growing inequality that has been visible in pre-tax, pre-transfer "market" incomes. In 1995, however, inequality started to grow markedly, even in disposable income terms (see Chart 5). The disposable income ratio between the top quintile and the bottom quintile increased by about 20 percent between 1995 and 1998 — almost as much as the corresponding 23 percent increase in the ratio of pre-tax-and-transfer market incomes between the same two quintiles. In other words, with the downsizing of government transfer programs in the mid-1990s, followed by the implementation of growing income tax cuts (the largest of which are not yet reflected in this income distribution data), it seems that Canada's tax-and-transfer system is failing to play its traditional role of offsetting the growing inequality of private market incomes.[19] One quarter of the increase in the inequality of disposable incomes between the top and bottom quintiles in recent years is attributable to the absolute decline in real transfer payments to the poorest families. Most of the rest is attributable to the failure of those real transfer incomes to keep up with the increase in average real market incomes (or, in other words, attributable to the *relative* erosion of the importance of transfer payments). For those who have argued that the reduction of transfer payments to poor Canadians will somehow encourage them to go out and earn more in the private "market," recent data are cold comfort: the real pre-tax market incomes of the bottom quintile actually declined by some 10 percent between 1995

CHART 6

Public Consumption



and 1999 (despite an improving labour market), amplifying the decline in transfer income received by these same households.

But the importance of government to the distribution and quality of economic opportunity is not limited to the tax-and-transfer system. As described above, the provision of direct, non-cash public services is also an important component of the overall standard of living of most Canadians. If anything, this activity has declined even more dramatically in the wake of the program spending cutbacks by all levels of government. Chart 6 illustrates the decline since 1992 in the real per capita provision of public services in Canada. Since peaking in 1992 at close to $7,000 (in 1992 dollars) per capita, the average consumption of public services has declined by 8 percent. At the same time, private consumption spending has increased (in real per capita terms) by 14 percent. This implies that public consumption has declined even more rapidly in relative terms — that is, as a share of the total bundle of consumption opportunities. Indeed, Chart 6 indicates the declining trend in per capita public consumption as a proportion of per capita private consumption. This ratio peaked in 1982 at close to 48 percent of private consumption; in other words, the total consumption basket at that time was allocated two-thirds to private consumption and one third to public consumption. This indicates that public service delivery reached its zenith at the end of the 1970s in terms of its relative importance. The ratio gradually declined over the next 15 years, reflecting the gradual erosion of the importance of government, and has contracted precipitously since 1995 to its lowest level since the 1960s. In terms of the relative importance of public consumption, then, Canada is already a "leaner, meaner" and more privatized society than at any time in the past three decades — and the recent election promises of politicians at both the federal and provincial levels suggest that this trend will be accentuated in the coming years.

The erosion of public service consumption in Canada during the 1990s has been described here using relatively abstract composite indicators, such as program spending budgets as a share of GDP and public consumption as a share of total consumption. The historic decline in these aggregate measures, obviously, does not directly illustrate the more concrete manifestations of hardship and dislocation which have been associated with the retrenchment of government fiscal activity. The goal of public programs, obviously, is to concretely improve living conditions — not to boost the program spending share for its own sake. The task of documenting the deterioration of living standards in Canada associated with the shrinkage in public programs is necessarily undertaken through detailed, sector-specific investigations. Examples of studies which document this deterioration follow.

> Bezanson and McMurray (2000) document the longer-run effect of provincial welfare cutbacks on individual families in Ontario.

> The Ontario Health Coalition (2000) documents the growth of user fees and other private health costs during the 1990s in Ontario.

> Raphael (1999) finds linkages between growing income inequality and the deterioration of health outcomes among poor Canadians.

- Doherty-Delorme and Shaker (2000) documents the decline in the quality of post-secondary education in Canada in the 1990s according to indicators such as faculty turnover and student-faculty ratios.
- Zelder and Wilson (2000) find a 51 percent increase in average waiting times for important medical treatments in Canada between 1993 and 1999.
- Osberg and Sharpe (1998) describe a sustained decline in economic well-being in Canada through the 1990s, largely attributable to rising economic insecurity among Canadians.
- Brown and Stanford (2000) provide similar evidence of a decline in economic well-being in Canada between 1990 and 1999, driven exclusively by a decline in social insurance and public consumption.

While each of these investigations typically describes only a small, specific slice of the overall erosion of public consumption and economic security in Canada, they collectively paint a picture of real decline in public services, and a corresponding erosion of economic security and well-being experienced in many segments of Canadian society. At the same time, however, other studies report continued public confidence in and support for the quality of important public services such as health care and education, and public opinion polls consistently suggest that Canadians view public financial support for these programs as representing the highest priority for future fiscal allocations.[20] Despite the apparent decline in the quality and effectiveness of many public programs, therefore, Canadians still express a strong view that they generally represent a worthwhile use of expendable public funds. The pressure to repair and rebuild many damaged programs, and to initiate new programs to address emerging social and economic needs (such as early childhood education or home care), is likely to persist, despite the current bias of Canadian federal and provincial governments in favour of tax cuts.

WAS THERE A CHOICE?

Supporters of the retrenchment in public expenditures which dominated Canada's fiscal landscape during the 1990s argue that the spending reductions were necessary in order to address chronic fiscal weakness and an accumulation of public debt which most analysts agree was unsustainable. The fact that program spending is still declining in relative terms, despite the vast improvement in the bottom-line fortunes of Canadian governments, inspires some scepticism regarding the claim that the retrenchment was motivated solely by fiscal necessity. And, indeed, the post-hoc evidence suggests that deficits could indeed have been eliminated without nearly the damage to the program spending activities of Canadian governments.

At the federal level, for example, Finance Minister Paul Martin famously set out a deficit-reduction timetable in his 1995 budget that he pledged to meet "come hell or high water." This timetable would see the federal public accounts deficit shrink from the nearly 5 percent of GDP booked in fiscal 1994 to 3 percent in fiscal 1996, 2 percent in fiscal 1997 and 1 percent in fiscal 1998. The budget could presumably then be balanced in fiscal 1999 (although this final step was not spelled out explicitly in the

Finance Minister's initial timetable). This timetable represented an ambitious but not unreasonable pace of deficit reduction, especially in the context of global economic recovery.[21] In reality, however, the federal government implemented what was clearly a much more dramatic plan for reducing and eliminating the deficit. The government's spending and tax decisions reflected a more rapid internal timetable for elimination of the deficit, but this more aggressive stance was "hidden" in official budget documents through measures such as deliberately pessimistic macroeconomic assumptions and the allocation of large "contingency" funds. In practice, the federal government outperformed its own deficit reduction timetable by two full years — reducing the deficit to just 1 percent of GDP in fiscal 1996 and then attaining a balanced budget a year later. This made Canada's federal government the first in the G7 to balance its budget — even though Canada's fiscal situation had ranked among the worst in the OECD just a few years earlier.

Was this dramatic and accelerated pace of deficit reduction necessary? Clearly there are some benefits from eliminating deficits sooner rather than later — a smaller accumulation of debt, and lower interest charges arising from that debt, chief among them. Yet the social and economic consequences of deficit reduction through program spending cuts are obviously heightened when that reduction occurs at such an accelerated pace. Indeed, it turns out that the initial 3-2-1 timetable so famously laid out by Mr. Martin could have been achieved *without any nominal program spending reductions at all*. Table 5 summarizes two deficit reduction scenarios: the actual experience of the federal government since 1994 (top portion), and a counterfactual scenario which assumes the federal government had only frozen nominal program spending at its 1994 levels, rather tha implementing the deep spending cuts tha began with the 1995 budget. The counterfactual scenario also assumes that Canada nominal GDP growth during the period o spending cutbacks would have bee strengthened by the amount of the spending cutback.[22] On the basis of other plausibl assumptions (regarding average effective ta rates and average effective interest rates which are assumed constant in the two scenarios), the federal government would stil have outperformed its supposed "official deficit reduction timetable, and balanced th budget by fiscal 1999 — with no cuts i nominal program spending and no additional increases in aggregate taxation (other tha those which were in fact imposed by the federal government).[23]

In this context, the claim that th only alternatives to deep program spending cuts would have been either the continuing indefinite accumulation of public debt o the imposition of dramatic tax increases i not credible. The fact that so many othe countries also eliminated deficits during th latter 1990s, most of them more graduall than Canada and most without dramati reductions in program expenditure, similarly supports the notion that real choice were available while still accepting the general goal of deficit reduction. And the dec sion by Canadian governments to impos dramatic program spending reductions t attain a uniquely fast improvement in bo tom-line fiscal balances must therefor reflect priorities other than simply t desire to balance the budget.

TABLE 5
Actual and Simulated Deficit Reduction, 1994–99

	1994	1995	1996	1997	1998	1999
Official Deficit Target (% GDP)			-3.0	-2.0	-1.0	0.0
Actual Experience						
Nominal GDP Growth (%)		5.6	3.1	4.3	3.2	7.6
Revenue ($b)	123.3	130.3	140.9	153.2	155.7	160.0
Program Spending ($b)	118.7	112.0	104.8	108.8	111.4	115.5
Debt Service ($b)	42.0	46.9	45.0	40.9	41.4	41.5
Balance (% GDP)	-4.8	-3.5	-1.1	0.4	0.3	0.3
Counterfactual Simulation						
Nominal GDP Growth (%)		6.5	4.0	4.3	3.2	7.6
Revenue ($b)	123.3	131.4	143.3	155.8	158.3	162.7
Program Spending ($b)	118.7	118.7	118.7	118.7	118.7	118.7
Debt Service ($b)	42.0	47.1	45.9	42.5	43.6	44.1
Balance (% GDP)	-4.8	-4.2	-2.5	-0.6	-0.4	0.0

Note: Counterfactual simulation assumes identical revenue/GDP ratio and average effective interest rate as in actual experience; program spending is frozen at 1994 nominal level; GDP growth adjusted by the amount of the foregone program spending cutbacks in 1995 and 1996; and debt accumulation and debt service charges adjusted accordingly.

CONCLUSION

Analysts of virtually all political stripes agree that fiscal balance is something that governments should strive to maintain. But the maintenance of fiscal balance, and deep reductions in the absolute and relative importance of government fiscal activity, are two different and distinct concepts. For various reasons, Canadian governments in the mid-1990s elected to attain virtually all of its deficit reduction through deep reductions in program spending — and hence placed the burden of that reduction onto the backs of the lower- and middle-income Canadians for whom that program spending (in the forms of both cash transfers and non-cash public services) is most important. It is now four years since balanced budgets were attained in Canada, yet the historic decline in program spending shows no sign of reversing itself. Taxes are now declining as a share of GDP, and that decline will accelerate in the wake of the tax-cut promises of current governments. As taxes decline, "catching up" to the earlier decline in program spending, the current downsized state of government programs will become cemented.

Continued government downsizing long after the attainment of balanced budgets suggests that factors other than deficit reduction were a motivating force for the historic retrenchment in the fiscal role of government that has been experienced in Canada. Most developed economies attained reduced government deficits over the past decade. However, the program spending reductions in Canada were uniquely deep; only three other OECD countries experienced a similarly large shrinkage in the relative importance of government program spending during the 1990s, even though several experienced budget deficits that were equally large if not larger.

High-income Canadians pay more into government than they get back, they clearly would like to keep more of their pre-tax income (who wouldn't?) and they constitute a disproportionately important political influence. Businesses would prefer to see lower income and payroll taxes, and they also carry disproportionate political weight. Employers would prefer to deal with a labour force which is relatively less "entitled," in terms of the security and consumption opportunities which are provided through the state (rather than through private employment income). Legitimate public concern over unsustainable government deficits in the 1990s provided these constituencies with the opportunity to effect a structural change in Canadian society that goes far, far beyond simply balancing the government's books. It involves an unprecedented and lasting retrenchment in the overall role of government programs in the social and economic lives of Canadians. For those who enjoy high pre-tax market incomes, this restructuring may enhance their long-term prospects (although even they may experience some insecurity as a result of the erosion of social entitlements). But for most Canadians, who still get more back from government than they pay into it, the incidence of poverty, inequality and insecurity will almost certainly increase.

As government programs are cut back, and taxes eventually decline to keep up, then Canada will look increasingly like the lopsided 27-to-1 society that is already visible in the data on the distribution of market incomes. The provision of both cash income supplements and non-cash public services is becoming markedly less important, in both absolute and relative terms. For the bottom and middle quintiles of the distribution ladder, this will inevitably translate into a reduction in long-term consumption possibilities. Canadian society will demonstrate more private consumption, less public consumption, great and growing inequality, and in the long run probably a decline in observed performance on a range of health and social indicators.

NOTES

1. For a left-wing vision that accepts the need for some form of "balanced budgets," see the various editions of the *Alternative Federal Budget* project, which has been produced annually since 1995 by the Canadian Centre for Policy Alternatives and CHO!CES.
2. In his paper in this volume, Don Drummond estimates that over 75 percent of the discretionary fiscal change at the federal level between 1993 and 1997 took the form of program spending cutbacks. Similarly, in a previous paper, Stanford (2000) estimates that program spending cutbacks constituted 64 percent of the total improvement in the federal budget balance between 1994 and 1998. This estimate incorporates the fiscal savings resulting from lower interest rates (while Drummond considers only the effects of what he calls "discretionary" fiscal measures, not including interest rate changes); if interest savings are excluded from the Stanford analysis, then spending cutbacks similarly account for more than 75 percent of fiscal improvement over the same period. At the provincial level, the fiscal balance (on a national

accounts basis) improved by 3.8 percentage points of GDP between 1992 and the attainment of balanced aggregate provincial budgets in 1997. More than 100 percent of this improvement (4.3 points of GDP) was attributable to reduced program spending (which was partly offset at the bottom line by rising debt service payments and falling provincial transfer revenue from the federal level).

3 For example, the NDP proposed in the most recent federal election a kind of infrastructure savings account, into which funds are invested during years of fiscal surplus and an inventory of plans is maintained for various infrastructure construction projects. When the economy slows, it is both fiscally and operationally possible for government to quickly organize counter-cyclical infrastructure construction activity in an efficient manner.

4 For example, total government subsidies to business in Canada have fallen by 60 percent since 1980 as a share of GDP, to just 1.1 percent in 1999. Similarly, the intensity of government regulation would seem to have been reduced (or at least streamlined) in recent years; a recent international study, for example, listed Canada as having the least burdensome regulations on business start-ups in the world (see Dixon, 2000).

5 In 1999, transfer payments to individuals by all levels of government totalled $106 billion, accounting for about one third of total government program spending.

6 The year 1998 is chosen for this analysis to be consistent with the quintile household income distribution data utilized below; all public expenditure data are reported on a national accounts basis.

7 Irwin Gillespie conducted a landmark study to estimate the distributional impact of public spending in the 1960s and 1970s; see Gillespie (1966, 1978). He found, similarly, that public services are not consumed disproportionately by lower-income categories, consistent with the simplifying assumption used here of equal per capita consumption of public services. Gillespie's studies would be worth repeating in the wake of the sea change in fiscal policy which has occurred in Canada since the publication of his work.

8 Author's calculations from Canada Customs and Revenue Agency (1997).

9 The analysis does not include other taxes, such as corporate taxes and property taxes, and hence understates the total cost of taxation and overstates the net benefits of government. Personal income taxes, social insurance payments and consumption taxes account for over two thirds of all government revenues. Consumption taxes are estimated as 15 percent (the weighted average combined federal and provincial sales tax rate in Canada) of disposable income for each quintile.

10 Jonathan Chevreau, the tax-bashing columnist for the *National Post*, once bemoaned this state of affairs as "the ruthless arithmetic of democracy" (Chevreau, 1999). Michael Walker, Executive Director of the Fraser Institute, agreed that most Canadians (those with annual incomes up to $50,000 per year) get more out of government than they pay in, and held that this would limit efforts to reduce the size of government — because of continuing popular support for the redistributive function that government plays (see Walker 1999). In retrospect, Walker underestimated the ability of the top quintile to exercise disproportionate influence on Canada's political process; his pessimism was not fully justified (although continued support for government taxing and spending activities will limit the extent to which fiscal activity continues to shrink).

11 Finance Minister Paul Martin, in delivering his "Economic Statement and Budget Update" in October 2000, said: "Over the next five years, we will hold the rate of growth in pro-

gram spending to less than the rate of growth in the economy."

12 See Canadian Centre for Policy Alternatives (2000) for an analysis of the allocation of latent federal surpluses to the competing goals of program enhancement, tax cuts and debt reduction. Defining a "neutral" fiscal policy as one in which taxes are constant as a share of GDP and program spending per capita is held constant in real terms (Don Drummond utilizes a similar definition in his paper in this volume), the analysis finds that just 2 percent of available federal funds over the 1997-2001 period have been allocated to enhancements in program spending (and that includes the monies allocated under the September 2000 health accord between the federal and provincial governments).

13 The net federal government debt, in public accounts terms, declined from a peak of 71 percent in 1995 to an estimated 55 percent by the end of the current fiscal year. In national accounts terms (the reporting method used by most other industrialized countries), the net debt is some 15 percentage points lower (as a share of GDP), and falling faster. See Department of Finance Canada (2000), Table 3.1 and Annex 2.

14 In his paper in this volume, Don Drummond similarly estimates that 87 percent of the improvement in the federal fiscal balance between 1993 and 1997 resulted from discretionary policy changes, not from economic recovery.

15 The author is grateful to Jeremy Rudin for suggesting this line of argument.

16 Author's calculations from Statistics Canada (2000b).

17 Author's calculations from Statistics Canada (2000b).

18 Most Canadians seem to accept that the quality of public services will be correlated with the morale and working conditions of public service providers; see, for example, Ontario Secondary
School Teachers' Federation (2000), whi
reports the results of a public opinion poll regar
ing the likely effects on education quality of t
intensification of work demands on teachers. F
an overview of the negative trends in teach
recruitment and retention in Canada,
Canadian Teachers' Federation (2000b).

19 For more detail and analysis of these trends,
the paper by Andrew Heisz, Andrew Jackson a
Garnett Picot in this volume.

20 Despite evidence of the deteriorating quality
public health care, most Canadians view the pu
lic system as effective and valuable; see Rach
Evans, Barer and Lewis (2001). Support for
system is higher among those who have used
Similarly, public opinions regarding public ed
cation are more positive (in terms both of de
ing more public support and approving of
quality of public education) among those w
children enrolled in public schools; see Canad
Teachers' Federation (2000a). Public opin
polls conducted in 2000 and 2001 by EK
Research Associates, Ipsos-Reid and the Canad
Broadcasting Corporation all indicated sign
cantly more support for public spending on e
cation, health care and other public services t
for tax cuts.

21 Steadily improving fiscal balances were exp
enced very broadly among industriali
economies during the latter 1990s, whethe
not they undertook to significantly reduce
gram expenditures.

22 In other words, it is assumed that each doll
reduced program spending translated in
reduced dollar of GDP; no additional spin
"multiplier effects" are assumed. This vie
consistent with the estimates of analysts du
1995 and 1996 that government spending
especially at the federal level, caused a signifi
fiscal "drag" effect which reduced Canadian
growth by as much as 1.0 percentage poin

each of those years; see, for example, Rubin and Lester (1996).

23 The successive Alternative Federal Budgets produced by the Canadian Centre for Policy Alternatives and CHO!CES in 1996 and 1997 accepted the official deficit reduction timetable outlined in 1995 by Mr. Martin, but attained those targets without program spending cuts (and without increasing the aggregate ratio of federal taxes to GDP). Of course, freezing the nominal program budget would still have implied a gradual erosion in the real per capita value of federal programs. Even simply by freezing nominal program spending at its 1994 level, federal program spending would still have declined by 1.8 points of GDP between 1994 and 1997 — smaller than the actual 3-point decline which occurred in this period but significant nonetheless.

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Trade Liberalization and Inequality in Canada in the 1990s

Daniel Schwanen

INTRODUCTION

The period following World War II saw an increasing trend towards the removal of trade barriers among a growing number of countries. In its initial phase at least, even pre-dating the war, this trend was aimed at reversing the results of the backlash against an initial wave of "globalization" which took place in the late 1800s and early 1900s. This backlash had taken the form of almost three decades of inward-looking immigration and trade policies, contributing to the global economic devastation of the 1930s.

Canadian governments were at the forefront of this post-war gradual opening up of borders. Beginning in the late 1930s, they entered into a large number of multilateral, regional and bilateral agreements that gave effect to rules of ever greater sophistication concerning the rights and obligations of states towards foreign traders, goods, services or investments. It can be said that this trend reached a pinnacle in the late 1980s and the 1990s, when three key agreements involving Canada were implemented, along with numerous smaller ones. The three were the Canada-US Free Trade Agreement (FTA, signed in 1987, implemented in 1989), the North American Free Trade Agreement (NAFTA, 1992 and 1994) and the series of documents resulting in 1994 from the Uruguay Round of multilateral negotiations which created the World Trade Organization (WTO).

The question I have been asked to answer in this article is what contribution these and other recent exercises in trade liberalization have made to social progress. As is clear from the other articles in this volume, the question of what constitutes social progress is a very complex one. The number of possible indicators that can be used to gauge social progress comprise real income levels and trends, the distribution of this income, the occurrence of poverty, population health, literacy, the quality of the environment, social integration and cohesion and gender equity. As Lars Osberg notes in his article in this volume, these and other indicators of social progress can be strongly dependent on each other. The implication is that by affecting even one of these indicators, trade liberalization could affect many others.

We know that there is currently some political unease both about the idea of liberalization and about the version of it which has been embedded in specific trade agreements. Analytically, the notion of free trade and the form it takes in actual trade agreements are very much separable. One can agree with the ideal yet disagree with the form under which "free trade agreements" actually provide for liberalized trade — not least because in many cases they retain barriers that seem to skew the expected idealized results, particularly for countries with relatively modest commercial clout like Canada. These differences can be very important, and also imply that trade agreements must be examined on a case-by-case basis.

Nevertheless, all *freer* trade agreements worthy of the name provide for some increased access to foreign products, at a minimum via tariff reductions on goods. It is the effects of this form of trade liberalization, particularly its plausible impact on the Canadian labour market in the 1990s, which will occupy the bulk of this article. However, I will also point to some other important features of specific trade agreements, as they interact with the effects of lower tariffs.

I will attempt to determine the impact of trade liberalization by, first, quickly surveying the linkages between trade and "factor prices," such as wages. I will then examine some existing facts and studies assessing the Canadian experience with trade liberalization, before conducting my own assessment of Canada's trade-liberalizing policies, mainly by dividing Canadian industries into groups according to their sensitivity and response to these policies. I will draw a comparative picture of workers in these groups according to key characteristics, and follow each group's relative employment and wage performance through the 1990s. In a final substantive section, I will attempt to link differences in characteristics and outcomes among the various groups to the available theory and evidence on trade liberalization, and to what we know about the evolution of the global, North American and Canadian labour markets in the 1990s.

LINKS BETWEEN TRADE LIBERALIZATION AND SOCIAL PROGRESS

Trade allows each region to specialize in the type of production for which its resources, skills or capital (dubbed "factors of production") are relatively better suited, and to exchange this production against imports. Thus freer trade makes a greater amount of goods and services available for a given amount of resources or effort expended. This allows a better fulfilment of societal needs and wants on average. In addition, increased global competition forces domestic firms to look for additional or new sources of efficiency gains — thereby generally helping to raise standards of living through a less wasteful use of resources (see, for example, Baldwin and Caves 1997).

These effects form the traditional basis of support for trade liberalization. There is a large body of evidence for the normally positive impacts of more open trade on averag standards of living, including for those at th bottom of the economic scale (for a recen study, see Dollar and Kraay 2000, who surve countries experiencing a wide range of economic circumstances). In Canada's case, tw respected economists, Peter Dungan and Steven Murphy note (1999, p. ii) that since exports have consistently yielded above-average productivity and returns to labour, the sharp rise in Canadian exports since the 1960s has helped lift Canadian productivity and returns to labour overall and liberalized trade has spurred many Canadian exports beyond the traditional resource-based industries of lore (Schwanen 1993).

Nevertheless, the actual and perceived effects of more open trade on an array of social variables can play an even greater role, in its acceptance or rejection by countries, than the benefits in terms of average incomes. It is well established theoretically and empirically that opening an economy to trade will affect different types of "factors of production" differently, depending on the relative abundance or scarcity of these factors in the economies of the trading partners. Easier trade will tend to equalize the price of these factors across countries, because bringing together hitherto separate markets for products will implicitly combine their markets for factors of production as well. One such factor is of course labour, which will be affected differently from holders of various forms of physical or financial capital. Within labour itself, the impact may differ sharply across various skill levels. Thus, as well as the overall level of economic activity, trade can affect income distribution, a relevant indicator of social progress.

The key point is that trade liberalization will likely affect groups differently, because protection from foreign competition usually benefits some groups in society whereas others would benefit from more open trade. It should be emphasized that the group or groups most vulnerable to liberalization need not be the same across countries or, within a country, across all points in time. Indeed, in traditional models of trade liberalization, the result of factor-price equalization is that if one group - - say, unskilled workers — loses in one country, it is because their counterparts in other countries benefit.

Factor-price equalization is not only the result of easier trade across borders: it can occur through the migration of factors themselves, whether people or capital. Indeed, some trade agreements such as the FTA and NAFTA promote factor-price equalization in a more direct way than through trade. They enable certain types of workers in high demand to move more easily across borders, facilitating the movement of factors of production themselves. This can substitute for the cross-border trade that would have been taking place had the factors been immobile.

A historical perspective on these phenomena is instructive. When many European countries became more open to agricultural imports in the late 1800s and early 1900s, hitherto heavily protected landowners suffered, along with agricultural workers. But workers in the emerging urban industrial sectors benefited substantially from a rise in their standard of living due to cheaper food, and there was a consequent overall reduction in inequalities. Subsequently, however, many agricultural workers, and others in countries that had remained closed to agricultural imports, emigrated from Europe to the United States and Canada. This movement served to sharply reduce wages in North America in relation to the returns on capital, a situation that, politically, favoured a gradual retreat from open immigration policies (Williamson 1998). That story involves elements of technological change, trade liberalization and mass migration, all leading to the convergence of factor prices across continents.

The impact of trade goes beyond that of making factor prices converge across countries, however. A large body of literature shows that trade can also move the relative earnings of different factors similarly across countries which liberalize, even when liberalization occurs between countries with the same factor endowments (e.g., proportion of skilled vs. unskilled labour) and access to technology. This last point is of central interest to modern inquiries into the impact of trade, because over 50 percent of world trade occurs between advanced industrial economies. Indeed, in general, differences in factor endowments, which in traditional models would be driving trade, explain only a small part of actual global trade (underestimating it between rich countries, overestimating it between rich and poor countries), a fact which economists refer to as a case of "missing trade" (Helpman 1999).

Other than factor-price equalization, then, the literature points to two key links between trade and factor prices: scale and innovation. In a recent paper, Antweiler and Trefler (2000) show that taking scale economies into account explains a significant part of the "missing trade." This is because differences in the scale of industries across countries mean that there will be differences across countries in factors required per unit of output (or, linking backwards, scale economies will influence the amount of trade, given factor abundance). They also show that for at least a third of the 27 manufacturing industries they examine, larger output is associated with a sharp rise in the demand for high school graduates relative to high school dropouts, a result which is consistent with those of a number of industry-level studies. Thus, more trade leading to bigger scale can lead to an increase in the relative demand for skilled labour. A complementary explanation is that suggested by Dinopoulos and Segerstrom (1999). In their self-described "North-North trade explanation for increasing wage inequality," they show that, by increasing the relative returns to innovation, open trade even between structurally similar countries (in terms of factor availability) will reduce the relative wages of unskilled workers.

Finally, Zhu (2000) shows that, in a context where one economy, "North," is driven by product innovation and another, "South," specializes in less skill-intensive goods, North will constantly specialize in the production of "new" goods. "New" goods use relatively more skills than "old" goods, the production of which is constantly transferred to South. But these ongoing moves decrease the relative demand for unskilled labour in North while increasing demand for skilled labour in South, thus exacerbating inequalities in both countries. Far from simply adding to the factor-price equalization model, in which at least the decline in relative wages for unskilled workers in North would be accompanied by a rise for similar workers in South, this analysis challenges the model's basic relevance.

In this context, it is also instructive to find that trade agreements can seek to directly influence relative factor prices across all the countries to which they apply, by strengthening the position of the owners of one or another type of factors. For example, the three agreements cited above have increased the length of protection for pharmaceutical patents and intellectual property rights generally. This does not have much to do with trade liberalization per se, but rather concerns what are the fair "terms of trade" — that is, the price and conditions at which transactions between exporters and importers of intellectual capital will take place. This type of development can certainly have positive effects overall by encouraging research and development and creative endeavours in general. But it is obvious from the models presented by Dinopoulos and Segerstrom (1999) and Zhou (2000) that it can also have an impact on the relative benefits that different groups of individuals within countries can expect from particular trade agreements.

I will return to these models below when examining the links between the impact of Canadian trade liberalization and recent labour-market developments. For now, I will turn to a description of Canada's recent trade-liberalizing experience.

THE CANADIAN EXPERIENCE OF TRADE LIBERALIZATION IN THE 1990s

At the end of the 1980s, effective Canadian tariff rates against US goods, which have traditionally served to shield domestic manufacturers from foreign competition, averaged some 8 percent against goods imported from the United States and 15 percent against goods imported from other countries (Trefler 2000, p. 12). Due to the staged liberalization scheduled under all three key agreements mentioned here, customs tariffs on the vast majority of items were eliminated on trade between Canada and the United States, and are gradually heading to zero on trade with Mexico under the terms of the NAFTA. And under the WTO and predecessor agreements, further tariff reductions have been taking place between Canada and virtually all other countries. These include countries such as China which are not members of the WTO but on which Canada chooses to bestow Most-Favoured-Nation tariff treatment (that is, treatment at least as good as those countries would get if they were WTO members). Even by 1995, when the new WTO deal was only beginning to bite, Canada's effective tariffs against non-US imports had fallen to less than 10 percent.

Some goods-producing sectors, however, remain significantly protected by tariffs and other barriers. This is the case for certain agricultural and cultural products, for many types of public procurement contracts, and, implicitly, for the industries affected by frequent anti-dumping and countervailing duty actions.

Although in fact much effort was expended in negotiating more open trade in services, the extent to which trade agreements have directly affected services industries is less clear-cut. In the FTA, services liberalization was in most cases prospective only, affecting measures that Canada or the United States might take in the future, with most existing barriers being spared. In the NAFTA, many services sectors and large swaths of policy areas involving public services were excluded from trade-liberalizing rules. And in those services sectors where specific trade liberalization rules were agreed to under the WTO, such as telecommunications and financial services, many countries including Canada were in any event undertaking reforms which were compatible with, but separate from, the rules agreed to in trade agreements as such. As these reforms were taking place while or even before the trade agreements took effect, it is hard to distinguish between the two sources of change.

This particular difficulty of distinguishing the impact of trade liberalization in services from other influences explains why many studies of trade liberalization focus on the manufacturing sector. This is both useful and problematic. It is useful because the manufacturing sector clearly bore the brunt of trade liberalizing policies, in particular the removal of tariffs. It is problematic because the services sector cannot have remained unaffected, even by the liberalization of merchandise trade only.

For example, the result of one prominent modelling exercise, completed before the FTA came into force, suggested that, although no job gain in manufacturing would result from the agreement, the latter would improve productivity (output per worker) in manufacturing (Economic Council of Canada 1988). This, in turn, would lead to rising real incomes and support a greater number of services jobs. Furthermore, the large increase in trade flows during the 1990s must have had an impact on services that are used in the production and trade of manufactures, such as transportation or warehousing services. Finally, trade in services would have been facilitated by various provisions of trade agreements that strengthen the protection of foreign investors and of intellectual property and facilitate the movement of business and technical personnel, particularly between Canada and the United States.

Thus, it is no surprise that, as we will see presently, trade-related restructuring in the 1990s did occur across Canadian services industries as well as in manufacturing.

Trade and Industrial Restructuring

According to a detailed survey recently conducted in late 1998 by the Bank of Canada, covering some 140 firms representative of Canada's industrial structure (Kwan 2000), 87 percent of Canadian firms were engaged in some form of restructuring in the 1990s. This compares to 36 percent that had engaged in restructuring in the 1980s (the survey defines restructuring as "a fundamental change in the way firms conduct their operations.")

The survey asked firms to give their reasons for restructuring and the type of restructuring in which they had engaged. I have rearranged the responses in order to distinguish between those having some plausible link to trade liberalization and the others (see Table 1). With respect to the reasons for restructuring, I have separated those involving trans-border considerations from the others. With respect to the type of restructuring undertaken, I have separated the responses that had a clear geographical component to them (e.g. "expanded outside Canada") from those that seemed independent of location.

The extent of formal trade liberalization in the 1990s is obviously captured here by the emergence of trade agreements among the reasons given for restructuring. However, in manufacturing, the share of responses pinpointing other cross-border factors (such as greater US competition) actually fell in the 1990s, so that all trans-border considerations together accounted for about half of the reasons for restructuring in both decades. One possible interpretation of this unchanged ratio is the role played by the Canadian dollar in

TABLE 1

Reasons for and Type of Restructuring in Canadian Industry

Share of All Responses Given (%)	Goods 1980s	Goods 1990s	Services 1980s	Services 1990s
Reasons for Restructuring				
Trade agreements	0	12	0	3
Other trans-border considerations (e.g., greater foreign competition)	48	38	14	25
Other considerations (e.g., new technology, regulation)	52	50	86	72
Total	100	100	100	100
Type of Restructuring				
Geographical: Positive (e.g., expand Canadian operations)	33	20	28	16
Geographical: Negative (e.g., relocate functions o/s Canada)	17	25	16	17
Non-geographical (e.g., new technology, larger size)	50	55	56	67
Total	100	100	100	100

Source: Kwan (2000) and author's calculations.

lessening the relative importance of competition from US manufacturers in the 1990s. Another is that, for at least some manufacturers, free trade agreements put a more identifiable face on US competition that was already felt for other reasons. In contrast, for services firms, there was a noticeable increase (from 14 to 25 percent) in the share of cross-border considerations (both trade agreements and increased US competition and the like) reported as reasons for restructuring.

A final note about the table: In both manufacturing and services, there was practically no increase in the share of responses indicating a move abroad as a response to restructuring. In contrast, there was a noticeable drop in the share of respondents indicating that restructuring took the form of expansion in the Canadian market. Instead of expansion, restructuring increasingly took the form of introducing new technologies or other changes to existing Canadian operations. How this is to be interpreted is unclear, as the survey captures only firms with existing Canadian operations — it does not include firms that went out of business or left Canada at some point during the two decades. Nevertheless, it suggests that there was an increased reluctance to expand in Canada in the 1990s which was general — that is, not specifically related to cross-border competitiveness, and possibly more related to the poor economic growth performance that pervaded much of the period.

This overall picture of industrial restructuring will help put in perspective the following more detailed assessment of the plausible effects of trade liberalization on labour markets.

Recent Canadian Studies

It can fairly be said that studies of the actual impact of trade liberalization in Canada in the 1990s have been sparse and have tended to focus on the bilateral Canada-US agreement. All of these studies duly note that trade liberalization meant serious adjustments in some industries, implying that a number of Canadians experienced some negative impacts from the agreements.

Two recent studies of particular note are those of Daniel Trefler (2000) and Eugene Beaulieu (2000). Both studies are of interest in a discussion of the possible social impact of trade liberalization in that they estimate its differential impact on two groups: "production" workers (those directly involved in the manufacturing process) and "non-production" workers (management, sales, clerical and research personnel, among others). This is a crude breakdown, to be sure, but still of interest, as individuals in the latter group earn, on average, considerably more than those in the former.

Trefler finds that a quarter of the decline in Canadian manufacturing employment between 1989 and 1996 was due to the effects of the FTA. The benefits, as he puts it, are that Canada increased its efficiency in the sectors which were previously most protected and reallocated resources from inefficient to efficient sectors — that is, productivity (output per resources) also increased as a result of trade liberalization. It should be noted that the period examined by Trefler was one of actual decline in manufacturing employment, which has since reverted back to near its pre-1989 levels. Indeed, Trefler suggests that the employment losses as a result of liberalization are temporary whereas the gains in productivity are permanent. Thus resources are gradually reallocated from less efficient to more efficient sectors. This explanation is consistent with the suggestions of other studies that free trade will lead to a shift, rather than an overall decline, in manufacturing unemployment.

Trefler also finds that the earnings of production workers in the sectors most affected[8] by trade liberalization, and even in manufacturing as a whole, rose as a result of the FTA tariff cuts. In contrast, he discerns no impact on earnings of non-production workers. He concludes that these cuts "minimally mitigated rising earnings equality" (2000, p. iii). His results, not uncharacteristically, are based on a highly disaggregated (213 industries) and carefully constructed database of the manufacturing sector. Nevertheless, any conclusion from this work that inequalities have been reduced as a result of the gains of a (very broad) class of production workers may be premature. In part, this is because Trefler's estimates incorporate the combined effect of Canada-US liberalization, without distinguishing between sectors particularly vulnerable to imports and those having benefited from freer exports.

Indeed, using a 19-industry breakdown of the manufacturing sector, Beaulieu (2000) estimates that the negative employment impact of Canadian tariff reductions in Canada's manufacturing sector was borne almost entirely by production workers, while being felt little by non-production workers. He explains this result by noting that the most protected industries before the tariff cut were indeed intensive in the use of production workers. He further notes that this result is consistent with the fact that less-skilled voters in Canada opposed the FTA, whereas skilled voters tended to support it.

EMPLOYMENT AND EARNINGS IN CANADA ACCORDING TO TRADE SENSITIVITY

In this section, I extend a procedure which I found useful in an earlier exercise (Schwanen 1997). It consists of dividing manufacturing industries into five groups according to their degree of sensitivity to trade liberalization. This allows for a comparison of certain key characteristics and labour-market outcomes for workers within the different groups. I have similarly divided services-producing industries into three groups according to sensitivity to trade.

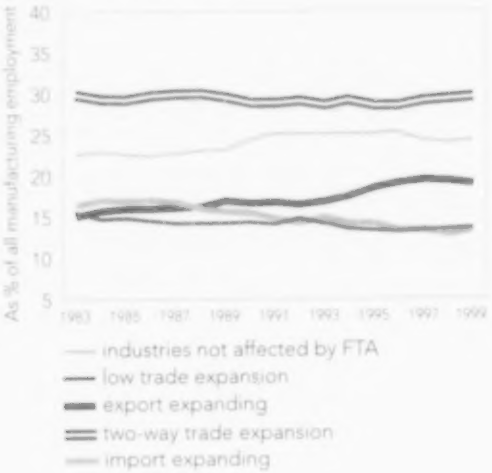
Two aspects of this classification should be emphasized. First, these groups are mutually exclusive — each industry is assigned to one group only, so there is no overlap between the groups. Second, the groups add up to the total of all manufacturing and of all services industries (excluding the public service and social services), allowing for a complete picture of developments within these two broad sectors. The emphasis on relative performance within the sectors is justified by the fact that whatever the impact of trade liberalization on overall income levels, its effects must always be traceable through its differential impact on various sectors. Furthermore, an approach that compares different groups of industries allows us to say something about the plausible links between trade and various social variables and trends describing or affecting workers in these industries. And finally, since the period under consideration — 1988 through 1999 — includes a cyclical peak, a recession, a recovery, and an expansion, a look at how industry groups have fared relative to each other allows us to abstract in a basic fashion from these cyclical factors affecting the overall economy.

Sensitivity to trade liberalization was defined differently for manufacturing and for services. For manufacturing industries, the degree of sensitivity to liberalization was determined first by whether or not the Canadian and US import tariffs had been eliminated specifically as result of the FTA. It is assumed here that industries already liberalized before the FTA, along with a handful of industries that remain protected to this day, did not see their competitive conditions radically change as a result of trade liberalization in the 1990s.[1] Here I call this group the "non-affected" industries. Of course, these industries likely experienced some indirect impacts from liberalization — for example, a reduction in the cost of inputs. Nevertheless, many of them were already characterized by free trade across a range of inputs as well, such as automobiles and parts or aircraft and parts. Thus they form a "control group" in relation to all the other industries that directly experienced liberalization during the decade.

The liberalized industries were separated into four groups, according to whether they were characterized by a large expansion in exports, imports or two-way trade, or by slow growth in trade between Canada and the region with which trade was being liberalized (United States, Mexico or non-NAFTA countries). A "large" expansion implies that trade in that industry has accelerated relative to a pre-liberalization period, and that it is growing faster than trade for the same industry with other regions with which Canadian trade was not concurrently being liberalized. The industries thus classified are listed in appendix table A1.

CHART 1

Manufacturing Employment by Sensitivity to Liberalization



Here again, one must be careful in interpreting the meaning of the classification I am using. Industries experiencing little growth in trade may nevertheless have experienced significant pressures — through prices, for example — necessitating a major restructuring just to stay competitive. However, price changes are unlikely to take place without significant increases in imports, so it is possible to describe the trade-induced competitive pressures faced by various sectors in terms of more or less rapid increases in trade flows. This approach also inspired the study from which the procedure I use here was originally derived (Bednarzik 1993).

Services industries were simply ranked according to sensitivity of employment in these industries to trade generally (se appendix table A2). "Trade-sensitive" employment in an industry was calculated as the average of the number of jobs in that industry that are directly or indirectly dependent on all Canadian exports, and of the number of jobs the industry would notionally have if all Canadian imports were replaced by domestic production. These numbers were derived from Dungan and Murphy (1999, Tables A.3A and A.5A), who used Canada's 1992 input-output matrix for their calculations. It would be possible to classify services industries according to whether they were themselves liberalized by trade agreements. However, such an exercise does not yield a discernible pattern for the liberalized and non-liberalized groupings that might be suggestive of a direct impact of the agreements on trade in services (Schwanen 1997). It seems more useful to consider what impact the large increase in trade as a whole, which we know took place following liberalization, may have had on services industries in Canada.

After classifying the industries in this way, I then chart the evolution of total employment and earnings for workers in these various groups, relative to the manufacturing and services industry averages, respectively. The data come from the Survey of Employment, Earnings and Hours — which also dictated the list of manufacturing industries considered here. One limitation, therefore, is that the self-employed are not included in the following analysis. Let us now look at the results for employment and earnings trends among the various manufacturing and services groupings.

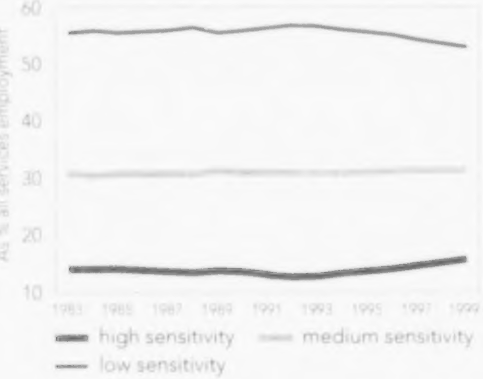
Employment

It is unlikely that the liberalization begun under the FTA had a negative effect on Canadian employment as a whole (Fortin 1999). But its differential impact across industries could still hold potentially different consequences between one group of individuals and another.

Chart 1 describes trends in manufacturing employment, divided among the five industry groups described above. It depicts quite contrasting experiences in terms of employment growth. Initially, the relative "winners" in terms of employment performance were those sectors that were not directly subject to new waves of trade liberalization in the 1990s. After 1992, employment in those liberalized sectors characterized by increasing exports also began to outperform employment in the average manufacturing industry. In liberalized sectors that experienced a surge in imports, employment was already, in the mid-1980s, dropping relative to the rest of manufacturing, a trend perhaps influenced by firms in these sectors anticipating the effects of the agreement. But it dropped even more markedly after the FTA came into effect in 1989. Another group which experienced a decline in its share of manufacturing employment was the one composed of sectors for which neither exports nor imports rose markedly. This could mean that these industries attempted to fight imports by cutting labour costs. This interpretation certainly does not mesh with the fact that the relative reduction for this group began well after the entry into force of the FTA, although it is more consistent with the fact that earnings in this group deteriorated quickly in the late 1980s and early 1990s. But in many instances — fish products, shipbuilding, petroleum refineries, cement, asbestos come to mind — these industries were facing crises or pressures to restructure that were not induced by 1990s trade liberalization per se.

Turning to employment in services (Chart 2), the rise in the share of employment in trade-sensitive industries after 1992 is remarkable when compared to its stability in the 1980s and to the stability of the somewhat less trade-sensitive groups. The similarly remarkable decline among the group least sensitive to trade reflects a number of key factors, including cutbacks in publicly funded services such as health care. It is far more likely that these cuts were due to other factors and policies affecting the economy than to forces related to trade liberalization.

CHART 2
Services Employment According to Trade Sensitivity

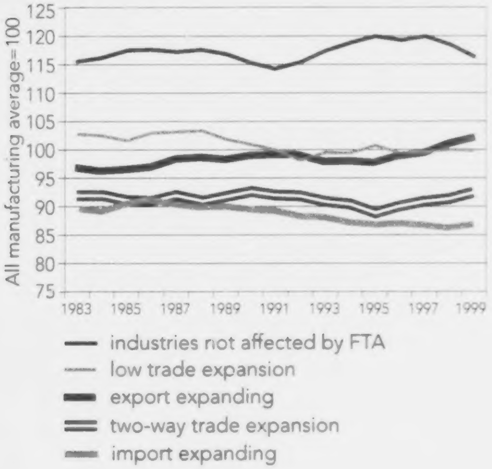


Earnings

A key variable allowing us to evaluate the impact of trade liberalization is the earnings of those affected. Chart 3 depict the evolution of average weekly earnings (including overtime pay) for the five manufacturing-industry groups.[2]

Here again, some patterns are quite stark. The relative earnings of workers in industries not affected in the 1990s (i.e. mostly already free) exhibited some gyrations but no trend over the period. However, earnings of those in export-expanding industries rose significantly and steadily after 1993, roughly the period when employment in

CHART 3
Manufacturing Earnings by Sensitivity to Liberalization



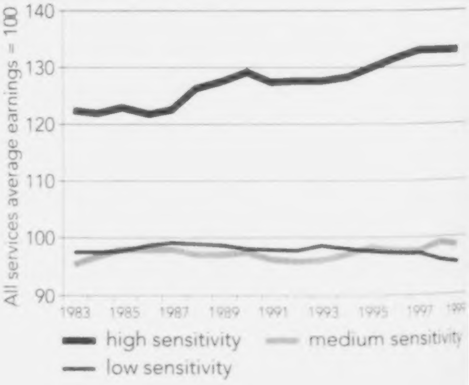
these industries also rose, reaching considerably beyond their pre-FTA average. In contrast, workers in industries characterized by a strong import surge, whose earnings were already below the average for the manufacturing sector, experienced a further, more marked, decline following trade liberalization in the late 1980s to mid-1990s, relative to average manufacturing earnings, and became the lowest-paid group in manufacturing. The chart does suggest that a bottom may have been found for workers in these industries around 1995. Workers in which exports expanded along with imports fared relatively well by comparison.

Earnings in the three services groups also exhibit sharply divergent trends, as they do with respect to employment (see Chart 4). Trade-sensitive services, already the most highly paid services group, exhibit a huge gain of 8 percentage points relative to the earnings of other services workers (and indeed relative to aggregate earnings in all Canadian industries). Earnings of workers in services with medium trade sensitivity also rose somewhat during the period. Earnings in the least trade-sensitive sectors (by far the largest group) were in contrast relatively compressed.

Summary

Employment and earnings patterns in the 1990s seem to have favoured workers in export-oriented manufacturing industries, while those in industries with rapidly growing imports were hit relatively hard. Workers in industries characterized by two-way trade expansion do not seem to have suffered relatively in aggregate, at least in comparisons of the latest data with pre-FTA data. Earnings patterns appear to be positively correlated with employment patterns in both export-expanding and import-expanding industries, suggesting both that lower wages are not sufficient to make Canada competitive against imports and that high wages are not a deterrent to good economic performance on the export front. It also seems that many industries declined for reasons other than those related to trade, a finding that appears to match the results of the Bank of Canada survey on restructuring.

CHART 4
Services Earnings According to Trade Sensitivity



WHO WAS AFFECTED BY TRADE-INDUCED RESTRUCTURING?

Given the differences in the labour-market outcomes (earnings and employment) among workers in various industry groups according to trade sensitivity, it would be useful to determine whether these groups can also be distinguished by the type of workers they employ. Such a finding could signal that trade liberalization affected workers differently not only according to the industry in which they worked, but also according to the characteristics of the workers themselves. While the former might not indicate a problem as long as those employed in "losing" industries are willing and able to move into "winning" industries, the latter might be problematic from the viewpoint of re-employment or the maintenance of income for those affected by trade liberalization.

For this purpose, I have estimated the composition of workers in the various industry groups according to three variables, educational achievement, gender and age, for 1986, the year of the last Canadian census before the FTA. These data are shown in tables 2, 3 and 4 respectively.

Educational Achievement

Table 2 presents a summary profile of Canadian workers in the five manufacturing groups and three services groups according to educational achievement.

The data suggest that industries which have fared the worst under trade liberalization in terms of both employment and earnings were those which, a few years before the FTA, most intensively employed workers with a high school education or less. This is consistent with the findings of Dungan and Murphy (1999, p. 68), that import competition in the Canadian market in recent years has increasingly affected lower-skilled workers. Their results also show that export-related employment in Canada has evolved, over the decades, towards industries employing more highly educated workers. Of note is the educational composition of services industries grouped according to sensitivity to trade. Both the most and least trade-sensitive industries employed a remarkably high proportion of university graduates, mirrored by a remarkably low proportion of people with high school only. The explanation for this is straightforward — the trade-sensitive group

TABLE 2
Composition of Employees According to Educational Attainment: 1986

% of All Workers	High School or Less	Post-Secondary	Some University and More
Manufacturing:			
Not affected by FTA	65	27	8
Slow trade expansion	68	24	8
Export-expanding	62	29	10
Import-expanding	72	21	8
Both expanding	67	24	9
Average Manufacturing:	67	25	8
Services:			
High trade sensitivity	52	26	22
Medium trade sensitivity	66	23	11
Low trade sensitivity	51	26	23
Average Services:	56	25	19

Note: Dungan and Murphy's (1999) table based on COPS data uses a 106-industry breakdown, which necessitated allocation of some of these educational achievement data among more than one of the 115 industries (81 manufacturing and 34 services) reported on elsewhere in this study.

Source: Canadian Occupational Projection System data reported in Dungan and Murphy (1999) and author's calculations.

TABLE 3
Gender Composition of Employees: 1986

% of All Workers	Male	Female
Manufacturing:		
Not affected by FTA	81	19
Slow trade expansion	72	28
Export-expanding	73	27
Import-expanding	55	45
Both expanding	69	31
Average manufacturing:	71	29
Services:		
High trade sensitivity	68	32
Medium trade sensitivity	52	48
Low trade sensitivity	41	59
Average services:	48	52

Source: Canadian Occupational Projection System data reported in Dungan and Murphy (1999) and author's calculations.

includes a bevy of highly sophisticated professional services, while the non-sensitive group includes education and health services. Nevertheless, it is a potentially important observation in light of findings in both Canada and the United States that education and experience explain only part of the widening earnings differential. The observation here suggests that the returns to education, at least, can very much depend on whether an employee works in an industry that benefits from increased trade.

Gender and Age

The data from Table 3 also show a possible link between gender and exposure to the benefits of freer trade. In manufacturing, the industries that were already (mostly) free of barriers had the highest proportion of male employees. In contrast, those industries most exposed to imports had, at the outset, the highest proportion of female employees (owing to their relatively high concentration in clothing and in miscellaneous electronic products manufacturing). In services, the highest male/female ratio is seen in highly trade-sensitive industries and the lowest in the least trade-sensitive ones.

The age composition of all manufacturing groups and of services with a high trade sensitivity is very similar, at least when only three broad age groups are compared, as in Table 4. Within services, however, a noticeable difference exists between highly trade-sensitive industries, in which the age distribution is comparable to that of manufacturing as a whole, and others, which clearly employ a higher proportion of youth.

I will now turn to the question of how these observations, based on the varying sensitivity to trade, link with overall developments in the labour market.

LINKS TO OVERALL GLOBAL AND CANADIAN LABOUR-MARKET DEVELOPMENTS

Many but not all advanced economies experienced rising inequalities among wage earners, in particular males in their prime earning years, since the 1980s. In turn, market-driven increased earnings inequality among men contributed in an important way to rising income inequality among households, although this was not the only factor. The extent of increased inequality has varied considerably across countries, rising most in the United States and the United Kingdom and least in Scandinavia and Germany. In turn, these variations can in many cases be linked to differences between countries in the supply of skilled workers — i.e. with more supply leading to less inequality between highly skilled and less-skilled workers. But institutions also matter, and inequality seems to be influenced by the extent of unionization and the existence of centralized wage-setting institutions (Gottschalk and Smeeding 1997).

In the United States, the increased dispersion of earnings can be explained in part by the sharp rise in the "college premium," the difference in earnings between college graduates and high school graduates or high school dropouts. There was also an increase in the returns to "experience" — the difference between average and entry-level earnings. Given that the relative earnings of highly educated and experienced workers has risen in spite of the increasing abundance of these workers in the United States, many observers have concluded that there had been a shift in demand toward skilled workers, and away from those less skilled.[4] The same can be concluded from the situation in Canada, where earnings of highly educated workers have not fallen in spite of the large increase in their supply (Riddell and Sweetman, 2000), particularly women (Beaudry and Green, 2000). Furthermore, an increase in the return to experience has also been observed in Canada (Heisz, Jackson and Picot in this volume). And it actually took a typical worker more education and more experience to get a job in the 1990s than in the 1980s (Picot and Heisz 2000).

This being said, however, much of the rise in inequality in the United States is a result of increases in earnings inequality even for workers *within* given categories of skills and experience ("observationally equivalent workers") (Acemoglu 2000). The same is true for Canada (see, again, Heisz, Jackson and Picot in this volume).

TABLE 4

Age Composition of Employees: 1986

% of All Workers	15-24 Years	25-54 Years	55 Years and Over
Manufacturing:			
Not affected by FTA	15	73	12
Slow trade expansion	17	72	11
Export-expanding	19	71	10
Import-expanding	17	71	12
Both expanding	19	70	11
Average Manufacturing	18	71	11
Services:			
High trade sensitivity	16	73	11
Medium trade sensitivity	28	63	9
Low trade sensitivity	22	67	11
Average Services	23	67	10

Source: Canadian Occupational Projection System data reported in Dungan and Murphy (1999) and author's calculations.

Other major labour market developments in the 1990s in Canada were growth in self-employment, which is not well explained, and a decline in youth workforce participation and employment, which is associated with an increased tendency to stay in school (Picot et al. 2000). While continued growth in the number of employed women relative to men limited the variation in earnings dispersion overall, differentials widened between high and low earners and between older and younger workers, particularly among men (Beaudry and Green 2000). Indeed, by following separate cohorts of individuals up to 1993, Beaudry and Green were able to show that young men with only a high-school education experienced an acute deterioration in terms of access to employment in general and full-year, full-time jobs in particular. Considering a decline in job market outcomes even for older generations of high school-educated men — but not so old that the decline can be attributed to early retirement — the authors note that prospects for the next generation of men with only a high school education look very bleak. And, they point out (p. 75), this is not even the least-skilled group of labour-market entrants.

In sum, apart from the obvious importance of cyclical factors, the theme of the past decade regarding labour-market outcomes in advanced economies seems to be increased inequalities accompanied by increased premiums for skilled and/or experienced workers. However, the premiums fail to entirely explain the inequalities. While each country's unique experience depends on changes in its supply of skilled workers and its labour-market institutions, some factors that potentially drive inequalities on the demand side — including trade and technological change — can be expected to function similarly across all advanced countries.

Having very quickly summarized the facts, I now turn to the question of whether trade has likely contributed to inequality trends in advanced economies.

Has Freer Trade Resulted in Inequalities?

Many observers have put the emphasis on "skill-biased technological change" as a major reason for increases in earnings inequality. This explanation tends to downplay the role of trade as a cause of inequalities. After all, skill levels have increased across all industries, regardless of their trade orientation (Lawrence 1996, p.58). There is a rather emphatic conclusion in the literature that freer trade with developing countries accounts for only a fraction, perhaps 10 to 20 percent, of the rise in inequality actually observed in advanced economies (Slaughter and Swagel 1997; Blanchflower 2000). Furthermore, trade with developing countries explains almost nothing of the overall wage stagnation that has afflicted U.S. workers on average for most of the past two decades. Lawrence (1996) points out that if trade with low-wage countries had been the culprit, a shift would have been observed away from worker income and towards corporate income. Such a shift did occur, but it was small in the 1980s and within the bounds of normal cyclical variation. Indeed, from the perspective of business owners, real wages (in terms of what prices the goods and services produced by workers will fetch) actually rose much more than they did from the workers' point of view (using the consumer price index). This discrepancy is due mainly to the fact that the price of capital goods (produced by workers, but mostly not consumed by them) fell, while the price of housing (consumed by workers, but mostly not produced by them in the present) rose.

Nevertheless, as Acemoglu (2000) among others notes, skilled-biased technological change falls short in some important respects of providing an explanation of the facts. It does not explain why there has been an increase in wage dispersion even *within* skills groups. Furthermore, he notes, even though skills-driven technological change would be expected to result in increased inequalities between skills groups, "it is difficult to see how sustained technological change can be associated with an extended period of falling wages of low-skill workers and stagnant average wages" (p. 7).

Acemoglu suggests that the role of trade in fostering inequalities can be underestimated, given the impact of trade itself on the choice of technology. And as we saw earlier, more open trade can foster the drive toward skill-biased scale and innovation. Indeed, an emphasis on the links between trade, scale and innovation is needed to make theory consistent with the observed facts, including that much trade is conducted between "rich" countries, rather than with countries characterized by relatively abundant low-wage, unskilled labour.

The observations about stagnant wages overall and increased inequalities within groups of observationally equivalent workers have also led a number of authors to focus on declines in the real minimum wage (in the United States) and in unionization rates (observed in Canada as well) as a cause for the drop in wages among the low-skilled. In turn, these developments may not be independent of trade liberalization. Bronfenbrenner (2000) provides considerable evidence that the ability of firms to move internationally — something that recent trade agreements facilitate — resulted in severely restricted union activity in the 1990s, even though employers rarely, in fact, followed through on threats to move. On the other hand, Lawrence's observation about the fairly stable business shares of income leads him to conclude that the power of unions to influence income distribution toward workers could not have been weakened very significantly during trade liberalization, albeit his results predate the NAFTA.

Amidst the various possible links between trade and wage inequality, it is therefore entirely possible that the role of more open trade as an indirect source of growing wage inequality has been underestimated.

Industry Trade Sensitivity and Canadian Labour-Market Outcomes

Can the comparison attempted above, of data on employment, earnings and worker characteristics and wages by industry grouped according to sensitivity to trade liberalization, help explain the overall job-market picture just sketched? The data suggest, in a fairly straightforward way, that trade is a plausible explanation for some of the increased inequality. In the manufacturing sector, industries exposed to imports, where workers were already earning less than average, fared worst, while export-oriented industries, where earnings were above average, did best. Earnings also fared badly in import-sensitive industries, although they did not perform any better in industries with no great sensitivity to trade, as measured by changes in trade flows.

Similarly, the data suggest that workers in trade-oriented services industries also gained during the trade-liberalizing 1990s, in terms of both employment and earnings, in contrast to workers in less trade-sensitive industries. Again, the winners seem to have been those in industries that were already enjoying above-average earnings at the beginning of the period.

The evidence suggests that, in manufacturing, the most negative impact of trade liberalization occurred in industries employing workers with lower-than-average levels of education. They also employed relatively more women. The services industries that tended to be most exposed to and to benefit from trade liberalization employed a higher proportion of men and a lower proportion of youth compared to other services industries. Furthermore, they employed a lower proportion of workers with a high school education or less than the economy as a whole.

In general, these observations suggest that some of the increased inequalities observed both between and within observationally equivalent groups may very much depend on differences in economic trends between industries, some of which are related to trade. In the "prime age men's world" of trade-oriented manufacturing and services industries, employees in many industries have experienced a favourable outcome, while others whose trade stagnated have also seen reduced employment and a relative drop in earnings. In the services sector, those least affected by trade liberalization fared relatively worse than others, albeit not for trade-related reasons. These sectors employed a relatively high proportion of youth. They also employed a high proportion of highly-educated individuals, who fared worse than individuals with similar levels of education in trade-oriented industries.

The evidence suggests that increased trade has rewarded the more skilled and experienced workers relative to others. For workers negatively affected by this trend — those with no more than a high-school education — it is fair to conclude from the work of Beaudry and Green (2000) that the outlook is bleak. Therefore, while trade openness has benefited Canadians in general, it may well have done so at the cost of increased inequality, which impacts social progress overall.

CONCLUSION

The social impacts of trade liberalization not only are complex but, because of a number of key variables, differ across countries and points in time. These key variables include: endowment in resources, technology and human capital; the mix of policies in place at the time trade is being liberalized; and whether the industries affected exhibit economies of scale and compete on the basis of product differentiation and innovation. The social impact of trade liberation will depend as well on the structure of a variety of social institutions, including those underpinning labour relations.

To the extent that expanded trade opportunities favour skill-biased change, trade may plausibly be said to have contributed to the inequality trends in Canada. There is some evidence that the workers hurt by trade liberalization were among the lowest-paid in manufacturing and had relatively low levels of education, and that the "winners" were people who were already doing well before trade liberalization. Open trade may help to explain some of the observed increases not only between age and skills groups, but within group inequalities as well, a major piece of the overall earnings inequality puzzle. This being said, the result on this score is not contrary to what was expected of trade liberalization beforehand. Furthermore, Canada has invested heavily in education and training; by expanding opportunities for "winners" among the educated and highly skilled class of individuals, trade allows Canada to reap the benefits of its intellectual investment. Nevertheless, it appears that expanded trade also creates conditions that warrant a closer look at existing strategies concerning training and inequality.

NOTES

1 No information was collected on other foreign tariffs for this article.

2 Earnings by industry were weighted by their 1988 employment weight throughout the period.

3 Other, much smaller, contributing factors include changes in taxes and transfers and the increased correlation between the earnings of spouses.

4 Lawrence (1996, p. 35) makes the same point about the relative increase in women's earnings in spite of a rapid increase in female labour force participation.

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TABLE A1

Manufacturing Industries by Sensitivity to Trade Liberalization

With 1988 Number of Employees in Thousands and Share of Total for Each Group)

Mostly Not Affected by the FTA (459.6: 23%)

Dairy products
Pulp and paper
Combined publishing and printing
Nonferrous metal smelting and refining
Aircraft and aircraft parts
Motor vehicle parts and accessories
Sawmill, planing shingle mills products
Publishing
Iron foundries
Agricultural implements
Motor vehicle
Agricultural chemical

Liberalized but Slow Trade Expansion (284.7: 14%)

Meat & poultry products
Flour, cereal & feed
Leather & allied products
Fabricated structural metal products
Other metal fabricating
Electrical industrial equipment
Concrete products
Glass and glass products
Refined petroleum products
Fish products
Tobacco products
Other metal rolling, casting and extruding
Wire & wire products
Shipbuilding and repair
Cement
Ready-mix concrete
Non-metallic mineral products n.e.c.
Industrial chemicals n.e.c.

Mostly Export-Expanding (324.2: 17%)

Vegetable oil mills (exc. corn oil)
Rubber products
Other furniture & fixtures
Other converted paper products
Aluminum rolling, casting, extruding
Machine shops
Other machinery & equipment
Office, store & business machines
Plastic & synthetic resin
Sugar and sugar confectionery
Plastic products
Paper boxes and bags
Platemaking, typesetting & bindery
Heating equipment
Commercial refrig. & air conditioning equip.
Boatbuilding & repair
Other petroleum & coal products
Pharmaceutical and medicine

Import-Expanding (318.7: 16%)

Beverages
Asphalt roofing
Primary steel
Copper and alloy rolling, casting, extruding
Clothing
Commercial printing
Steel pipes & tubes
Electrical and electronic products n.e.c.

Both Import- and Export-Expanding (595.6: 30%)

Fruit and vegetable
Bakery products
Primary textiles
Sash, doors & other millwork
Household furniture
Power boilers and heat exchangers
Stamped, pressed & coated metal products
Truck & bus bodies & trailers
Major appliances
Paint & varnish
Soap & cleaning compounds
Other manufacturing
Flour, cereal & feed
Other food products
Textile products
Wood n.e.c.
Office furniture
Ornamental & architectural metal products
Hardware, tools & cutlery
Railroad rolling stock
Communications & other electronic equip.
Toilet preparations
Other chemical products

TABLE A2

Service Industries According to Trade Sensitivity

(with 1988 Number of Employees in Thousands and Share of Total for Each Group)

Industry	Trade-Sensitive Employment as % of Total
High-Sensitivity Group (946.6: 13%)	
Other transport and services to transport	69.5
Storage and warehousing	50.4
Water transport and related services	44.1
Other business services	42.9
Professional business services	41.6
Advertising services	41.1
Taxicab	39.9
Truck transport	39.5
Railway transport and related services	33.9
Pipeline transport	33.3
Air transport and incidental services	29.9
Medium-Sensitivity Group (2188.1: 31%)	
Other utility not elsewhere classified	27.0
Wholesale trade	26.2
Accommodation and food services 2	4.6
Miscellaneous services	23.5
Motion picture and video	23.1
Photographers	22.6
Electric power systems	20.1
Insurance	15.9
Telecommunications carriers and others	15.2
Broadcasting	14.6
Banks, credit unions and other depository institutions	14.4
Gas distribution systems	14.3
Low-Sensitivity Group (4038.3: 56%)	
Trust, other finance and real estate	13.5
Other amusement and recreational services	12.5
Postal services	12.1
Interurban and rural transit systems	11.7
Laundries and cleaners	8.4
Retail trade	6.3
Urban transit system	3.9
Educational services	0.4
Other personal services	0.3
Hospitals	0.3
Other health services	0.1

Relentless Incrementalism: Deconstructing and Reconstructing Canadian Income Security Policy

Ken Battle

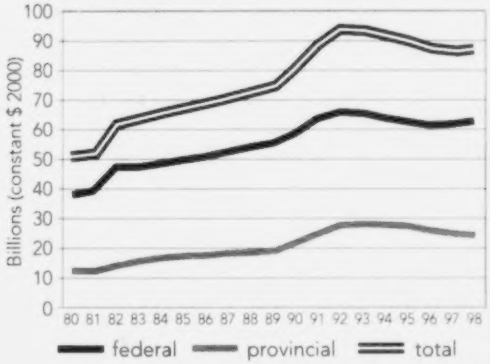
INTRODUCTION

The conventional wisdom among social advocacy groups, the left and the media about what has happened to Canada's social programs in the 1980s and 1990s goes like this: "Empowered by an unholy blend of neoconservative ideology and governments' political success in convincing most Canadians of the economic imperative of putting the nation's fiscal house in order, the corporate and ruling political/bureaucratic elites have slashed social spending and shrivelled the role of the federal government in social policy. While the provinces have played an important part — in some cases enthusiastically, in others regretfully — in the assault on social programs, the chief culprit is the federal government: Ottawa abandoned the sacred trust of universality, abrogated its stewardship role in enforcing national standards and unilaterally pulled out of the cooperative federalism partnership whereby it had helped the provinces finance medicare, welfare, social services and post-secondary education."

As with all influential mythologies, there are important elements of truth in this account. But on the whole it is a comic book version of the ongoing transformation of the Canadian welfare state. As a result, the so-called public discourse on social policy in this country is lacking in substance and subtlety, a fact that serves to insulate governments from effective criticism and starve the country of badly needed informed debate about how to reconstruct our social security system. Important advances in social policy which hold out promise for broader reform are being ignored — indeed, opposed — by "civil society" groups that cling to an outmoded universalist model of social security that in some important respects never was realized in Canada.

This paper analyses the ongoing transformation of income security policy in Canada by attempting to: (1) chart trends in major income security expenditures and their impact on income inequality; (2) identify key economic, social, demographic and political forces driving the recent and unfolding reform of Canadian income security policy; (3) explore major developments in income security policy (defined broadly as encom-

CHART 1
Total Government (Federal, Provincial and Municipal) Income Security Expenditures, 1980-81 to 1998-99



passing both direct and tax-delivered benefits) since the mid-1980s; and (4) explain how governments have effected such significant restructuring with relatively little political pain. Regarding the latter task, I coin the term "relentless incrementalism" to characterize the dominant process and method of deconstructing and reconstructing Canadian social policy.

This paper focuses on income security programs, which constitute the bulk of federal social spending and a significant portion of provincial social expenditure. But its arguments and themes apply to the reform of social policy generally, including social services, employment programs and health care.

INCOME SECURITY EXPENDITURES AND INEQUALITY

Trends in Major Income Security Programs

Although the 1990s are widely viewed to be a decade of cuts to public spending, especially social programs, in fact income security expenditures indicate a modest rather than sharp downward trend in both absolute and relative terms. Moreover, while comprehensive data on total overall social security spending are available only to 1996-97 (Human Resources Development Canada), reductions in income security and social services have outweighed those in health and education.

Total federal and provincial/territorial expenditures on income security programs increased from $50.9 billion in 1980-81 to a peak of $93.4 billion in 1992-93, declining to $86.5 billion in 1997-98 though inching up to $87.3 billion in 1998-99 (the latest year for which comprehensive data are available). Chart 1 shows the trend; here, as in other graphs, dollar figures are shown in constant 2000 dollars.

While federal and provincial income security spending trends are similar, the latter show a steeper rise and fall. Provincial income security spending rose by 123.8 percent in real terms between 1980-81 and 1993-94 as opposed to 70.4 percent for federal income security expenditures; provincial spending declined by 13.2 percent from

CHART 2
Total Government (Federal, Provincial and Municipal) Income Security Expenditures Per Capita, 1980-81 to 1998-99

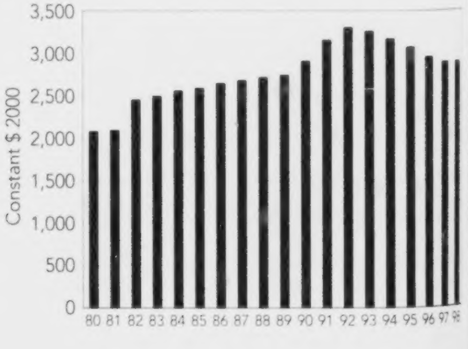
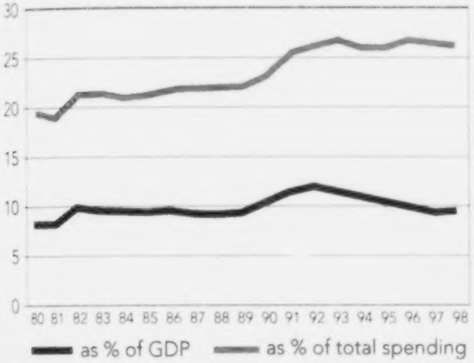


CHART 3

Total Government (Federal, Provincial and Municipal) Income Security Expenditures as Percent of GDP and Total Spending, 1980-81 to 1998-99



1993-94 to 1998-99 as opposed to only 3.8 percent for the federal government.

The trend is similar when measured in per capita terms to take into account population increase. Chart 2 shows that total federal-provincial income security expenditures went from $2,076 in 1980-81 to $3,266 in 1992-93 and declined to $2,885 by 1998-99 — though the latter is still above the figures for the 1980s.

The recent decline is somewhat more pronounced when we compare income security spending to GDP, as illustrated in Chart 3. Total federal-provincial income security expenditures rose from 8.2 percent of GDP 1980-81 to 9.8 percent in 1982-83 (reflecting the recession, which boosted social spending and reduced GDP) and a peak of 11.9 percent in 1992 (again, reflecting the impact of the recession on spending and GDP), though it has since fallen steadily, to 9.4 percent in 1998-99, as income security spending fell and GDP rose in real terms between 1994-95 and 1997-98 (though income security expenditures rose a bit between 1997-98 and 1998-99). Compared to total government expenditures, though, the trend was upwards in the 1980s to a plateau in the 1990s, with small ups and downs — from 19.4 percent in 1980-81 to 26.7 percent in 1993-94 and 26.1 percent in 1998-99 (see Chart 3).

Both levels of government also deliver substantial income benefits through the personal income tax system by means of a welter of non-refundable credits and deductions that reduce income tax or (in the case of refundable credits) also deliver cash benefits to those below the taxpaying threshold. Chart 4 gives the trends for income security direct and tax expenditures for 1988-89 through 1998-99 (consistent and comprehensive data for earlier years are not available). Expenditures increased from an estimated $121.5 billion in 1988-89 to $149.1 billion in 1994-95, declining somewhat to $140.1 billion in 1998-99. In 1998-99 direct expenditures represented 62.3 percent of overall income security expenditures while tax expenditures came to 37.7 percent.

CHART 4

Total Government (Federal, Provincial and Municipal) Direct and Tax Expenditures on Income Security, 1988-89 to 1998-99

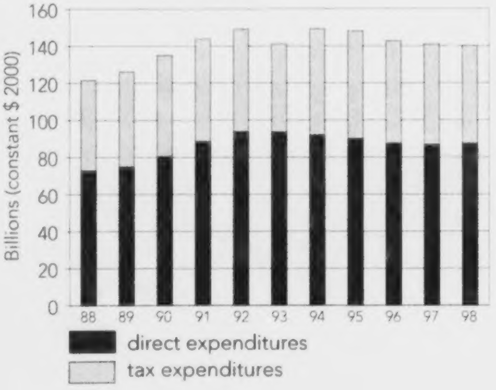
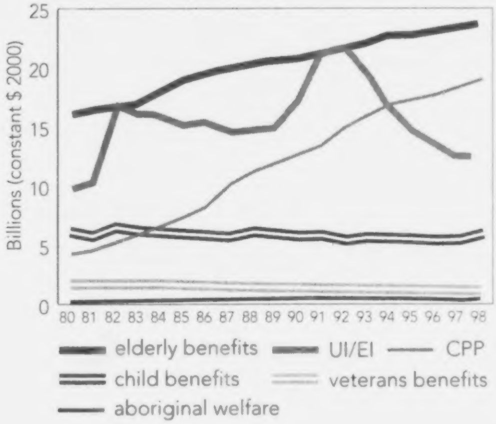


CHART 5
Federal Income Security Program Expenditures, by Major Category, 1980-81 to 1998-99



To explain these patterns in income security expenditures, it is necessary to examine individual trends in their constituent programs. Chart 5 plots the trends. We begin with federal income security programs and then turn to those delivered by the provinces (and, in a few cases, municipalities).

Elderly benefits — Old Age Security, the Guaranteed Income Supplement and Spouses Allowance — constitute the largest federal income security expenditures. Chart 5 illustrates the relentless upward increase; total expenditures rose from $16.0 billion in 1980-81 to $23.7 billion in 1998-99 and will reach a projected $26.2 billion by 2003-04.

The program driving this upward trend is OAS, by far the largest of the three benefits, which the steady aging of Canada's population has pushed from $11.5 billion in 1980-81 to $18.3 billion in 1998-99. As will be explained later, OAS remains a quasi-universal program despite its shift to income testing in 1991 (only the top 2 percent of seniors do not qualify for any benefits). Spending on the GIS for low-income seniors increased in the first half of the 1980s (from $4.1 billion to $5.0 billion in 1985-86) but has remained more or less at the same level ever since ($5.0 billion in 1998-99) due to progress in the retirement income of elderly Canadians — resulting largely from the maturation of the Canada and Quebec pension plans, improvements in private pension plans, the rising participation of women in the paid labour force and the retirement of Canadians who enjoyed substantial real wage gains in their working years. For the same reasons, the smallest of the three programs, Spouses Allowance (for low-income widowed and married people between 60 and 64), has declined steadily in cost since the mid-1980s and amounted to just $382.9 million in 1998-99 (as opposed to total elderly expenditures of $23.7 billion).

Two of the same factors — the rising participation of women in the paid labour force and population aging — are fuelling big increases in expenditures on the Canada Pension Plan. Chart 5 shows that CPP outlays escalated from $4.3 billion in 1980-81 to $19.2 billion in 1998-99 — a hefty 346.5 percent real increase, far outpacing the 48.1 percent real rise in spending on elderly benefits. Another, though lesser factor, is enhancements in benefits over the years. No other income security program, federal or provincial (with the exception of the parallel Quebec Pension Plan, which is growing rapidly for the same reasons as the CPP), has expanded so much and so relentlessly. While new CPP recipients will experience a small reduction in their benefits as a result of recent changes, the effect on expenditures will be swamped by the burgeoning caseload. Note that the Canada and Quebec plans provide not only retirement benefits, but also survivor, disability and death payments.

Unemployment/Employment Insurance expenditures have had a roller-coaster ride over the years. They jumped from $9.8 billion in 1980-81 to $16.8 billion in 1982-83 (a 71.4 percent real hike) as a result of rising unemployment during the recession of the early 1980s (from 7.5 percent in 1980 to 11.3 percent in 1984). Costs eased slowly with economic recovery, but rose even more sharply with the early 1990s deep recession's high unemployment: the jobless rate went from 8.1 percent in 1980 to 11.4 percent in 1993, pushing UI outlays up to $21.7 billion in 1992-93. They then plunged to $12.5 billion by 1998-99 and are projected to increase slightly (due to a relaxation of the rules reducing benefits for frequent users and doubling of parental leave duration) in the early years of this century.

Two factors explain the ski-jump fall in U/EI costs in the first half of the 1990s. The first is a series of belt-tightening changes in eligibility requirements and the amount and duration of benefits, sealed with the Orwellian name change to Employment Insurance in July 1996. The second is falling unemployment, from 11.4 percent in 1993 to 6.8 percent in 2000. The number of recipients of regular EI benefits was almost cut in half (by 48 percent) from 1992-93 (1,148,290) to 1998-99 (552,975); during the same period the number of unemployed Canadians fell by only 20 percent. Coverage of the unemployed nosedived from 74 percent in 1989 to 36 percent in 1997.

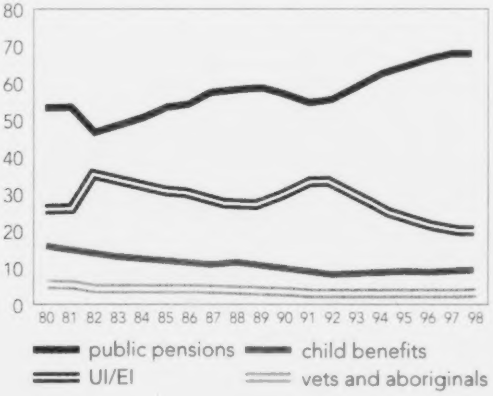
Federal child benefits remained more or less flat between 1980-81 and 1998-99 at around $6 billion, as depicted in Chart 5. However, under the federal-provincial National Child Benefit reform, Ottawa is substantially increasing its expenditures on the broad-based income-tested Canada Child Tax Benefit and has solidified its increases by fully indexing rates and income thresholds. By 2004-05, expenditures are projected to reach $7.75 billion (in inflation-adjusted 2000 dollars). Moreover, the number of families with children eligible for the CCTB will increase from about 80 percent to more than 95 percent by 2004-05 because of increases in the base Child Tax Benefit and the latter's threshold for maximum payments.

The federal government delivers income benefits to veterans through two programs — pensions for those with a service-related disability (and survivor benefits for their widowed spouses and children) and income-tested allowances. Combined benefits from the two programs declined from $1.75 billion in 1980-81 to $1.25 billion in 1998-99 as the eligible population shrank due to the death of veterans from the world wars and the Korean war. Ottawa also funds social assistance to Aboriginals on reserves. Expenditures climbed steadily from $305.9 million in 1980-81 to $630.8 million in 1994-95, dipped for the next few years but rebounded to $618.4 million in 1998-99.

The individual program expenditure trends reviewed above reveal why federal income security spending overall rose steadily throughout the 1980s and decreased only modestly in the 1990s to begin climbing again in 1998-99. Overall elderly benefits and the CPP have risen steadily over the years: in 1980-81 they represented 53.0 percent of total federal direct income security expenditures; by 1998-99, they had swollen to 67.8 percent of the total. These increased expenditures swamped the sizeable reduction in EI expen-

CHART 6

Percentage Share of Federal Income Security Expenditures, by Major Category, 1980-81 to 1998-99



ditures in the 1990s, which shrank from 29.7 percent of total federal income security spending in 1990-91 to 19.8 percent by 1998-99. Changes in veterans' income benefits (which fell) and social assistance for reserves (which increased) had little impact since they represent a small proportion of the total — 2 percent for veterans' programs and 1 percent for aboriginal social assistance. Chart 6 compares the trends for the major categories.

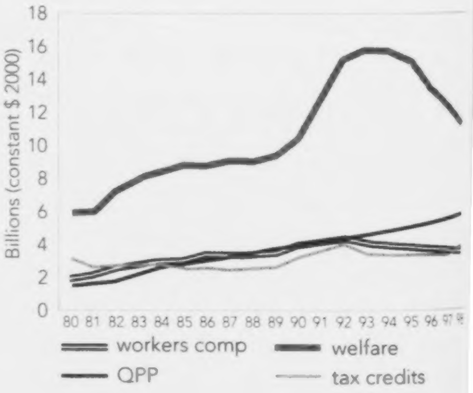
Turning to provincial spending, Chart 7 shows the trends in major programs. Far and away the largest item is provincial and municipal expenditures on social assistance ("welfare"). The recession of the early 1980s bumped up social assistance outlays, but they continued to grow throughout the decade despite declining unemployment from 1983 through 1989, increasing from $5.9 billion in 1980-81 to $9.4 billion in 1989-90. Why? The answer lies largely in changes in the labour market and society.

Welfare originally was intended to be Canada's social program of last resort, providing short-term, emergency assistance to "unemployable" households with no other source of income. Instead, it has grown into a major front-line social program that in 1994 served 3.1 million women, children and men — 13 percent of the non-elderly population, which is a record high. Many recipients are "employable" men and women who are chronically unemployed, cycling among nonstandard jobs, EI and welfare. Four in 10 Canadians dependent on social assistance are children. The high rate of marriage breakdown and the increasing number of young mothers choosing to raise their children alone rather than give them up for adoption are another cause of increasing welfare rolls. So also is de-institutionalization, which has moved many people with physical and mental disabilities from institutions to welfare.

Rising unemployment with the recession of 1991-92 added to these forces and pushed social assistance expenditures from $9.4 billion in 1989-90 to $15.8 billion in 1993-94 and 1994-95. However, social assistance expenditures fell in the latter half of the 1990s, reaching $11.2 billion in 1998-99.

CHART 7

Provincial and Municipal Income Security Expenditures, by Program, 1980-81 to 1998-91



Improvements in the employment picture played a role, but the stronger factors were governmental — reductions in welfare benefits (through overt cuts, as in Alberta and Ontario, or stealthily through non-indexation) and tightening of eligibility rules. While anti-welfare ideology and politics clearly played a role in Alberta and Ontario, cuts in federal social transfers clearly helped motivate provincial belt-tightening of social assistance programs.

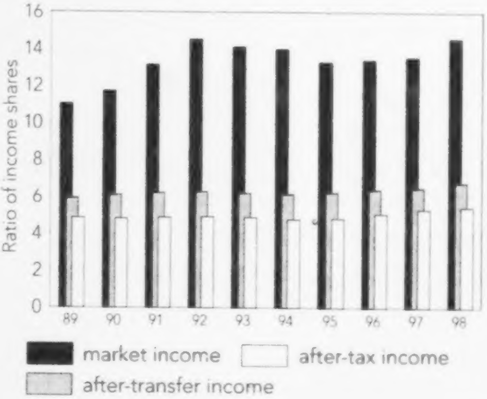
The QPP now ranks second in provincial income security spending, and it has seen steady and sizeable increases for the same reasons noted earlier concerning the CPP. Quebec Pension Plan outlays rose from $1.5 billion in 1980-81 to $5.7 billion in 1998-99.

Provincial refundable tax credit expenditures have increased over the years as well, though they have not followed a smooth pattern. They remained more or less flat throughout the 1980s (though they were higher at the start of the decade) and then increased in the 1990s with some ups and downs, standing at just under $4.0 billion in 1998-99.

Finally, Workers' Compensation expenditures also increased during the 1980s and the first two years of the 1990s, though they have declined since 1992. Going from $1.9 billion in 1980-81, they peaked at $4.3 billion in 1992-93 and declined to an estimated $3.6 billion in 1998-99. The fall in expenditures in recent years is mainly the result of a sharp decline in the number of injured workers or their dependants receiving benefits, which fell from a high of 614,336 in 1988-89 to a low of 399,542 in 1997-98. Provinces have responded to rapidly rising costs by reducing access to and levels of benefits (Gunderson and Hyatt 2000).

CHART 8

Gap Between Income Shares of Families in Top and Bottom Quintiles, for Market, After-transfer and After-tax Income, 1989-1998



While provincial income security expenditures increased overall between 1980-81 and the early 1990s, showing the same pattern as federal spending, provincial income spending fell more sharply in the rest of the decade. Between 1993-94 and 1998-99, provincial income security expenditures went down by 13.2 percent in real terms, or $3.7 billion, whereas federal income programs together declined by only 3.8 percent, or $2.5 billion. Only the QPP consistently increased, whereas both elderly benefits and the CPP keep driving up federal income security expenditures. The largest provincial income program, social assistance, fell significantly, and Workers' Compensation also declined. Provincial tax credit spending rose in 1998-99, but not enough to counter the continued fall of welfare and Workers' Compensation expenditures.

Narrowing the Inequality Gap

Canada's income security system has performed remarkably well over the years in narrowing the income gap between the affluent and the poor and in combating growing inequality in market incomes (i.e., income from employment, investments, private pensions and other non-public sources). Chart 8 shows the trends in the ratio of the share of income of families in the top quintile to the share for families in the bottom quintile. We look at three definitions of income — market income, after-transfer income (i.e., market sources plus government income security benefits) and after-tax income (i.e., after federal and provincial income taxes affect the distribution of after-transfer income) (Statistics Canada 2000).

Market income inequality grew with the deep recession of 1990-91, eased somewhat with economic recovery but rose again in 1998, when families in the highest quintile had 14.6 times the share of market income of families in the lowest quintile. However, income security benefits — even though key programs suffered large cuts (e.g., EI and welfare) — managed to substantially narrow the income gap and almost completely countered increases in market income inequality. The income tax system also has a redistributive effect, further narrowing the gap between affluent and poor. However, after-tax and transfer income inequality crept up during the 1990s as a result mainly of growing market income inequality and, to a lesser extent, cuts to transfers. In 1989, families in the top quintile had 4.9 times the share of after-tax income of those in the bottom quintile, but by 1998 that ratio had increased to 5.5 times.

FORCES FOR CHANGE

Pressures to reform Canada's social programs have arisen out of a variety of profound changes — economic (fiscal and labour market), social, demographic and political. Economic factors, while *primus inter pares*, are a necessary but insufficient explanation for the shift from a "universalist" to "post-welfare" state in Canada that began in the late 1970s, gathered steam in the 1980s and 1990s, and is still under way in the first decade of the 21st century. Social, demographic, political and ideological changes and forces, often interacting with economic factors, are playing a major role in the ongoing transformation of Canadian social policy. So also is the role of ideas about social policy, the universalist model of social security that legitimized and guided (though only partly) the construction of the post-war welfare state is being supplanted by a "post-welfare state" model that is both shaping and reflecting changes to major social programs (Banting 1997; Banting and Battle 1994; Battle and Torjman 1994, 1995*a*, 1995*b*; Giddens 1998; Human Resources Development Canada 1994; Kent 1962, 1999; Marsh 1985; Mendelson 1993, 1999; Prince 1999; Torjman 1997*a*).

Economic Factors

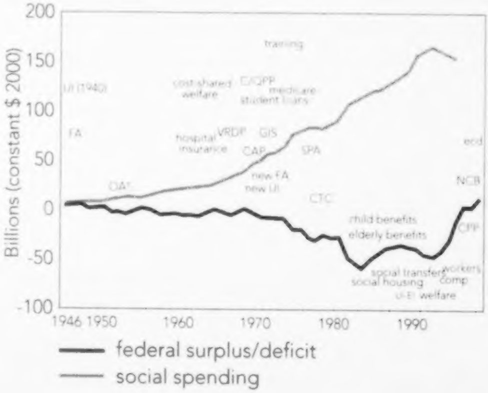
Without question, governments' — especially Ottawa's — fiscal woes have been the main driver for changes to Canadian social policy in the latter part of the 20th century and into the first decade of the 21st century.

The post-war growth of Canada's social security system was fuelled by an expanding economy, which burbled along at a healthy 5.6 percent annual average real rate of increase during the 1950s and 1960s, allowing governments to collect more money than they spent and still afford rapidly rising social expenditures resulting from major new social programs and population growth. But a sea change in Canada's economic fortunes in the mid-1970s marked the end of post-war expansion and the beginning of the end of the universalist welfare state — even though it would take another decade before the federal government summoned up the political courage to dismantle the supposedly sacred trust of universal social programs and reduce and recast its financial support for provincial health and welfare systems. Under a failed large-canvas federal-provincial reform of social policy between 1973 and 1975, a federal proposal to supplement the incomes of the working poor was withdrawn because of the finance department's concern about its future cost. Canada's economic growth began to sputter with the world oil price shock and the rise of a bitter mixture of low growth and high inflation.

Mounting government deficits and accumulating debt pushed the federal and provincial governments increasingly to restrain public — especially social — spending in the 1980s and 1990s. The forces of social policy reform-through-restraint gathered strength as Ottawa managed to convince most Canadians that the deficit had to be cured no matter how bitter the medicine. There is no question that the Liberal government's successful war on the deficit — waged through a combination of spending cuts and tax increases, including hidden "stealth" measures to erode benefits and creep taxes upward — was the primary impetus for social policy reform in the 1980s and 1990s.

CHART 9

Federal Surplus/Deficit and versus Social Program Evolution



The clear relationship between fiscal and social policy change is illustrated in Chart 9, which compares trends in the federal surplus/deficit and in total government (federal, provincial and municipal) social spending in the post-war period and lists major social program changes. From 1946-47 to the mid-1970s, Ottawa balanced its books yet built most of the superstructure of the universalist welfare state. Unemployment Insurance, created in 1940, slowly grew in scope until, in 1971, a new Act (new UI) covered virtually the entire paid workforce. Family Allowances paid its first benefits in the spring of 1945. Old Age Security, serving all Canadians 65 and older, arrived in 1952. A series of other major social programs followed (delivered by Ottawa or by the provinces with federal financial assistance) — hospital insurance, medical insurance, cost-shared welfare, the Vocational Rehabilitation Disability Program, the Canada and Quebec pension plans (C/QPP), the GIS, federal support for training and student loans, the Spouses Allowance, an expanded Family Allowances (new FA) and the refundable Child Tax Credit (CTC).

But the 1980s and 1990s brought deepening deficits and resulting retrenchment (though varying in bite from minor to major) in several major social programs, including child benefits, elderly benefits, federal social transfers to the provinces (for health, post-secondary education, social assistance and social services), social housing, welfare, U/EI and the CPP. (These changes will be discussed later.) The NCB in 1998 marked the first "new" social expenditure in many years and was followed by an early childhood development agreement under which Ottawa will provide (effectively restore, in part) financial support to help provinces build early childhood development services.

Note that, even with the reductions imposed on major social programs in the 1980s and 1990s, social spending continued to grow in real terms, declining modestly in the mid-1990s. As explained above, the main reason is the upward march of expenditures on the biggest public pension programs (OAS and C/QPP), which were only slightly trimmed by governments. This is a crucial finding: government restraint measures, bolstered by an improving economy, served only to slow and finally modestly reverse the upward curve of social spending. Given the pressure of an aging population and recent enhancements to federal child benefits, the future trend of social spending likely will plateau if not even increase, not continue its recent decline.

Changes in the labour market also pose daunting challenges for educational, employment and income security policy.

Canada's long retreat from any semblance of a full-employment economy — the latter constituting the bedrock of the universalist model of social security — has been one of the heaviest pressures on the welfare state. Rising unemployment placed growing demands on welfare, UI, social and employment services, health care and other social programs. To make matters worse, mass unemployment robbed federal and provincial treasuries of badly needed tax revenues, resulting in hikes in income taxes, consumption taxes and payroll taxes.

Canada's official unemployment rate has fallen considerably in recent years, from its recessionary peak of 11.4 percent in 1993 to 6.8 percent in 2000. But unemployment remains a serious problem, especially if we look at the "real" unemployment rate — that is, counting those who have given up an active job search or are working part-time because they cannot find full-time work — or half as much again as the official figure. In 2000 there were still more than a million Canadians (1,089,600) out of work, and the age-old problem remains of regions and communities afflicted by chronic joblessness and much higher rates than the national average.

Like that of the United States, Canada's labour market has undergone polarization (Jackson and Robinson 2000). There is a core of good jobs requiring advanced education and specialized skills in return for good pay, career advancement, and generous pension and other work-related benefits. At the same time, there is a "non-standard" labour market for part-time, seasonal and temporary employees, the self-employed and people who hold down multiple jobs. Its characteristics are the opposite of those of the core workforce — low skills, poor pay for many, instability, few if any work-related benefits such as supplementary health care and dim career prospects.

There is evidence of earnings polarization, with growth in both lower-paid and higher-paid jobs, and shrinkage of middle-income employment. The latter includes many well-paid blue-collar jobs in traditional industries, such as manufacturing and transportation, which have been victims of technological change. Middle-management positions have been cut in the downsizing of public and private bureaucracies. Canada is also experiencing growing polarization of working time. Hours of work are increasing for some full-time workers who tend to have high incomes. At the same time, there has been a growth of part-time work, much of it involuntary and most paying low earnings. And education — always a strong correlate of occupational and social status — is another form of polarization, with post-secondary credentials dividing the workforce between haves and have-nots.

Social and Demographic Changes

Social and demographic changes — and their attendant cost effects — also are buffeting Canada's social security system. The archetypical "Wally-and-the-Beaver" family of the 1950s and 1960s — dad in the labour force, mom (working) at home, three children — has been transformed by profound changes in the economy, society and culture.

A growing number of Canada's families feel insecure and vulnerable. Many have had to turn to social safety net programs like UI and social assistance for support at the very time that governments have been cutting back on those programs.

One of the most significant changes n the family arises from the dramatic ncrease in women's participation in the paid labour force since the 1960s. In seven out of every 10 couples with children, both parents work outside the home. Nearly two thirds of married women with children under age six are in the labour force. The majority of single parents are now in the labour force as well.

Not only are most parents employed, but an increasing number are working longer hours on the job in order to make ends meet. They have less time for housework, shopping and the other domestic labour required to maintain a household — not to mention time to spend with their children. Juggling the dual and sometimes conflicting demands of their responsibilities as workers and parents is a stressful and tiring daily struggle for most parents. The burden is especially hard on mothers, who continue to shoulder most of the responsibility for child care and housework.

Another major stress on today's families is the high rate of marriage breakdown and remarriage. Canada has one of the highest divorce rates in the world, along with Sweden, Denmark and the United Kingdom. Four in 10 marriages end in divorce, though seven in 10 divorced Canadians marry again. More and more parents and children have to adjust to life in "blended" families from two previous marriages.

Divorce and separation also create single-parent families. One out of every five families with children is now headed by a single parent, usually the mother. Single parents not only have to carry most, if not all, of the burden of caring and providing for their children. They also run a high risk of poverty. More than half of single-parent families led by women live on low incomes and many end up on welfare, although the majority of single parents work in the labour force, typically in low-wage jobs.

Families are smaller today; most have only one or two children. Unlike earlier generations, they cannot rely upon older children to help take care of their younger siblings. Families also move more often, so many are isolated from traditional support networks of relatives.

These social changes are placing heavy demands on Canada's social programs — welfare, child care, child welfare and health care — that were not built for the world of the 1990s and 2000s. An added stress is the aging of the population, which will place increasing pressure on the pension system, social services and health care as the baby boom generation reaches old age.

Moreover, these demographic, social and economic forces are additive and interactive. Divorce, unemployment and low earnings threaten to condemn a growing number of Canadians to poverty in old age. Child poverty brings an above-average risk of a range of health problems, accidents and below-average school performance. These risks can work against poor children when they reach adulthood, resulting in a greater likelihood of unemployment and low wages, increased demands for social programs and lost tax revenues.

Political and Ideological Changes

Political and ideological changes also have motivated and moulded changes to social policy and challenged the universalist model. The Keynesian-inspired civil servants and politicians who designed and built the post-war welfare state are long retired or dead. They have been succeeded by typically neoconservative bureaucrats, especially those in the federal Department of Finance, which has dominated social policy over the past two decades. Both corporate and political elites in Canada have proved more conservative than the general population, and are more supportive of cuts to social spending.

The major social policy changes made by the Conservative government in the 1980s built a momentum that prepared the way for even more radical changes by the Liberals in the 1990s and into the new century (Battle and Torjman 1995). The Conservatives proved that the universalist welfare state was no longer a "sacred trust," if it ever had been. Polls taken for the Liberal government's Social Security Review in 1994 and 1995 found that a majority of Canadians believed that social programs required substantial change (Human Resources Development Canada 1994).

Central to this readiness for social security reform was the Conservatives' successful campaign to convince Canadians about the serious problem of mounting debt and the need to put the nation's finances in order. In addition, federal cuts to UI and to social transfer payments to the provinces under the Conservatives began to weaken the co-operative federalism model of the 1960s and 1970s. The Liberals have advanced the move towards the post-welfare state that was begun by the Conservatives. The Conservatives were devastated in the 1993 federal election and supplanted by Reform/Canadian Alliance, a right-wing party that espouses a much more conservative and decentralist platform than the Conservatives (which, like the Liberals, are a broad-based party with supporters ranging from the far right to the left of centre).

Another political factor that has played a huge part throughout the history of Canada and its social programs is federalism. For much of the post-war period, Ottawa played a dominant role in the distribution of power and influence over social programs vis-à-vis the provinces. But the pendulum has been swinging back in the 1990s and first decade of the new century. The two levels of government now play equally important roles in what Professor Keith Banting has dubbed Canada's "bifurcated welfare state" (Banting 1987). While Ottawa dominates income security policy, the provinces also are players. And while the provinces deliver most welfare, social services and health care, Ottawa has reduced its financial assistance and influence in these important areas and devolved labour market programs to the provinces. Thus federal cuts to social programs have increased the relative power of the provinces over social policy.

The shifting division of federal and provincial powers was codified in the February 1999 Social Union Framework Agreement (SUFA, as it is known to bureaucrats), signed by all governments except Quebec. The Agreement is intended to promote a respectful and collaborative approach by senior levels of government in dealing with major social problems (e.g., poverty, homelessness, unemployment) that are not neatly defined as exclusively federal or provincial. Ottawa alone no longer would spell out the rules under which provinces receive federal funds. Rather, any such rules would be set jointly by the federal and provincial governments.

The thinking that shaped the Social Union negotiations viewed federal and provincial relations as a partnership — a big buzzword in the new public policy — in which both levels of government have an important role. Partnership effectively results in different responses to the same problem. It can give rise to differences across regions in the same policy area. The resulting variability throughout the country is seen as not only inevitable but desirable, as jurisdictions work within their respective fiscal and political priorities.

Another important element of this Agreement is the concept of public accountability. All governments are seen as accountable both individually and collectively, to the public and to groups that have a special interest in certain issues, such as services for children or supports for persons with disabilities.

Images of Social Policy

A final force helping to drive and shape the transformation of Canadian social policy is a new conceptual framework that is supplanting the universalist model here and in much of Europe. For want of a better term, I refer to this new model of social policy as "post-welfare state" (Battle 2000).

The post-welfare state model pursues the same fundamental objectives of social policy set out in the universalist model more than half a century ago, which I characterize as "civilizing capitalism" (by ensuring a basic income safety net, reducing market inequalities and delivering services that don't belong in marketplace) and as "nurturing capitalism" (by providing social and educational infrastructure that enhances economic growth and investing in human capital). The post-welfare model is based on a critique of key social programs — especially UI and welfare — that sees them as costly, inefficient and ineffective. The new model seeks mechanisms that are more effective and better suited to the changing economic, social and political realities of the new century. And while economic concerns were important in the universalist model, they are front and centre in the post-welfare model.

The post-welfare state is very much an emerging project, and does not seek to create an entirely brave new world, retaining as it does certain elements of the universalist and residualist models that preceded it. However, we can identify several key concepts of the post-welfare approach as it is being developed in Canada:

- broad-based and progressive income-testing replaces demogrants and needs-tested income security programs (but *not* social insurance, nor social, health and employment services);
- attention to alleged unintended work disincentive effects of social programs — e.g., marginal tax rate issue regarding income-tested social benefits, welfare wall;
- attention to interactions and links between social programs and the tax system;
- desire to right the balance between "active" and "passive" social programs, reactive and preventive approaches;
- concern to harmonize federal and provincial social programs, reduce duplication and overlap, and work together;
- concern about the financial sustainability of social programs (e.g., no more federal blank cheques through cost-sharing for social transfers to provinces);
- recognition that there are multiple players (public, private sector and voluntary) in social policy, and the need to better utilize and combine their resources through partnership;
- increasing recognition that communities have a major role to play on social policy design as well as delivery;
- emphasis on the economic functions of social policy, especially on education and training to ensure a competitive workforce, and in supplying the social infrastructure (e.g., universal health care, education) that will support economic growth and attract a talented workforce;
- emphasis on the need to measure the outcomes of social policy and on social reporting made available to the public and social advocacy groups.

The following section elaborates on a number of these themes.

MAJOR DEVELOPMENTS IN CANADIAN INCOME SECURITY POLICY

Almost all major social programs in Canada have undergone or are experiencing changes in the transition from the universalist to post-welfare state. Some of these shifts have been incremental, though a series of seemingly modest changes over time can add up or lead to more significant structural reform. Other changes have been more immediate and radical.

The following discussion identifies and analyzes general trends and developments in income security policy, based on my analysis of detailed changes in the many programs. The latter are listed in a chronology of individual reforms to major federal and provincial social programs in the 1980s, 1990s and 2000s to be published by the Caledon Institute of Social Policy.

Changes in Coverage: Retreat from Universality?

One of the hallmarks of the universalist model of social security is its faith in the virtues of serving the entire population or large groups thereof: coverage should be "universal." To use the current vocabulary, social programs should be a force for social solidarity, promoting "social inclusion" and combating "social exclusion." In an older and rather more *realpolitik* language, social programs that serve Canadians at all income levels are claimed to foster political support for the welfare state overall (including programs targeted to the poor). According to this line of thinking, voters — especially the broad middle class that constitute the majority — must perceive that their taxes buy them some social benefits too, not just the poor. Caledon's Senior Scholar, Michael Mendelson, talks of the "middle class bargain" underlying medicare: the middle-class majority of Canadians will support a single-tier public health insurance financing arrangement (and oppose privatization of essential services) so long as they perceive that it provides them adequate and accessible health care.

The defining characteristic of a universal social program (or demogrant, as it used to be called) is that it is made available to all regardless of their income level or other economic circumstances. But that does not mean that a universal social program serves the entire population, since it always imposes some sort of (non-income) qualifying condition, such as age, disability or work status. The only social program in Canada that benefits virtually every Canadian is medicare — it would be hard to imagine anyone never encountering that system at some point in his or her life — but even here there is a key qualifying condition: the person receiving care must be deemed to require essential health services. While medicare remains universal in the sense that essential health care is still provided at no direct charge, critics argue that in reality the accessibility, quality and supply of publicly insured health services have been compromised by funding cuts and problems in adapting to new pressures (e.g., an aging population, expensive technology and drugs).

By the 1980s, Canada had several major income security programs that could be considered universal in the sense of not imposing income-based qualifying conditions. At the federal level, universal benefits included OAS, Family Allowances, UI, the CPP and veterans' disability pension. At the provincial level were the universal QPP and Workers' Compensation.

The 1990s brought a major assault on universality, though only at the federal level. However, pro-universalist critics have demonized the demise of old age pensions and child benefits, which were dwarfed by the severe shrinkage in coverage of UI.

Coverage is also a relevant issue for non-universal income security programs. Access to needs-tested provincial social assistance (welfare) programs has been tightened by changes to their qualifying conditions (National Council of Welfare 1997). Partial de-indexation of the federal refundable GST credit and the refundable child tax credit and its successors, the Child Tax Benefit and the Canada Child Tax Benefit, and the non-indexation of provincial income-tested child benefits, earnings supplements and refundable tax credits gradually have shrunk the size of the qualifying population compared to what it would be under full indexation.

On the other hand, several provincial income-tested programs — income-tested child benefits and earnings supplements, under the National Child Benefit (NCB) — are increasing coverage over their needs-tested predecessor (i.e., welfare payments on behalf of children), expanding beyond welfare recipients to include the working poor and, in some cases, modest-income Canadians as well.

Elderly benefits. In 1989, OAS was subjected to the infamous "clawback" that effectively transformed it into an income-tested program by 1991, when the changes were fully phased in. During this bizarre Alice-in-Wonderland episode in Canadian social policy, the federal government continued to send out monthly OAS cheques to all Canadians 65 or older but required upper-income seniors to pay back part or all of their benefits the next spring on their income tax return. Ottawa claimed that the program was still "universal," but in effect it imposed an ex post facto income test through a weird administrative mechanism that I argued at the time meant that well-off seniors effectively got an interest-free loan (i.e., the temporary use of their monthly OAS payments) for one year. In 1996, the federal government abandoned its odd ex post facto income test and applied it in the same manner as regular income tests (e.g., the Child Tax Benefit or the refundable GST credit): eligibility was determined before benefits were paid out, on the basis of net income as calculated in the annual income tax form, so that upper-income seniors do not receive an OAS cheque. However, Ottawa seems to want to continue pretending that the program is universal, since high-income seniors are informed that the government has taxed back their OAS (even though they never see the money).

But the impact of the income test on OAS has been wildly exaggerated and in fact the program remains quasi-universal. The income test applies to individual net income above $53,960; benefits are reduced increasingly (at the rate of 15 percent of benefits above that level) until net income exceeds $87,025, when eligibility ends. A mere 2 percent of seniors receive no OAS and only 3 percent get partial benefits; fully 95 percent still receive their full monthly cheque (though benefits remain taxable). While partial de-indexation of the income threshold for the income test over time gradually extended the reach of the test further down the income scale, that stealthy acceleration of the income test was stopped in 2000 by the federal budget's momentous decision to restore full indexation of the personal income tax system and child benefits.

Rarely noticed in the critics' furore over the death of universal old age pensions was the 1984 move to income test the age exemption (changed in 1986 to a non-refundable credit), which affected far more seniors than the clawback of OAS. The age credit is now worth a maximum $900 in total federal and average provincial income tax savings and is income tested above individual net income of $26,284 at the rate of 15 percent, reaching zero at $49,824. As is the case with the OAS income test, the recent decision to restore full indexation of the personal income tax system put a stop to the age credit's gradual erosion in value and compression down the income range.

Moreover, the elderly benefits system overall remains effectively universal because of the non-refundable pension income credit, which serves all seniors with private pension income — which, in the case of those in the upper income ranges who do not qualify for OAS, is virtually everyone.

Child benefits. No area of Canadian social policy has seen more changes over the past two decades than federal child benefits (Battle and Mendelson 2001). The move from universality to income testing was essentially the same as for OAS — that is, first the 1989 clawback on Family Allowances, then full income testing with the 1993 Child Tax Benefit that replaced FA (and the income-tested refundable and non-refundable child tax credits). However, the changes to child benefits reduced coverage more than for elderly benefits, because the CTB's income test is based on family as opposed to individual income. The 1993 CTB served about eight in 10 families with children, and partial indexation was gradually lowering the income threshold for the income test and thus reducing coverage over time.

But ongoing changes to child benefits under the federal-provincial NCB reform have increased their coverage. The Canada Child Tax Benefit, which replaced the CTB in 1998, involves mainly an increase in and equalization of benefits for low-income families (discussed below). But coverage is being increased as well, through increases to the base CTB and its income threshold for maximum payments and a planned lowering of the reduction rate. Moreover, the restoration of full indexation in 2000 ends the stealthy on-the-one-hand/on-the-other-hand shell game whereby increases to child benefits were eroded by inflation. By 2004, some 95 percent of Canadian families will be receiving the CCTB — the same quasi-universal coverage as OAS.

Unemployment Insurance. The real whack at coverage involves UI which, though remaining universal in a technical sense — level of income does not exclude eligibility — saw its coverage more than halved in the 1990s as a result of a series of draconian changes to its major qualifying condition, work requirements.

In 1990, Ottawa increased the number of weeks worked in order to qualify for benefits from 10-14 weeks to 10-20 weeks, depending on the regional jobless rate. Effective July 1994, employees had to work a minimum of 12 weeks to be eligible for UI if they lived in a region with an unemployment rate of 13 percent or higher; before, the minimum qualifying period was only 10 weeks, though for a regional jobless rate of 16 percent or more.

In July 1996, the program was renamed Employment Insurance to signal a fundamental philosophical shift — from "passive" dependence to "active" employment. The objectives of the overhaul were to keep more unemployed workers off the program, move current recipients off as quickly as possible, and encourage greater workforce participation through skills training and upgrading.

Eligibility for benefits was moved from number of weeks worked to number of hours. The stated purpose of this change was to allow more flexibility in the program and to enable part-time workers, in particular, to qualify for EI. But the Act also boosted the number of hours required to qualify for benefits. Workers now must put in from 420 to 700 hours (the equivalent of 12-20 weeks), depending on the unemployment rate in the region. This change represents an increase of between 180 and 300 hours.

Claimants applying for sickness, maternity or parental benefits need 700 (lowered in 2000 to 600) hours of work. New entrants to the labour market and those who have been out of paid work for some years must establish a reasonable attachment to the job market before they are considered eligible for EI. Newcomers or those re-entering the labour market must work a minimum 910 hours before qualifying for the program, though this rule subsequently was rescinded for parents re-entering the workforce (who now require the same number of hours as other workers to qualify for regular benefits).

The maximum duration of benefits was cut three times during the 1990s. The new Employment Insurance Act reduced the maximum length of claim from 50 to 45 weeks.

The tougher work requirements and reduced duration of benefits dramatically cut EI coverage. The percentage of the unemployed receiving regular UI/EI benefits fell from 83 percent in 1989 to just 45 percent in 1998.

The coverage problem is exacerbated by the fact that the EI program's employment benefits are linked to its income benefits. Unemployed Canadians who no longer qualify for income assistance are also, as a result, denied the program's work-related measures. The long-term unemployed, the underemployed, new workers and part-time workers find it especially difficult to gain access to labour market measures that might help them improve their job prospects (Torjman 2000).

But there is more to the UI/EI story than shrinkage of coverage. One important benefit — parental leave — should increase its reach somewhat over the original EI legislation.

Until recently, EI offered a maximu 15 weeks' maternity leave and an additiona 10 weeks' leave for either parent, for a com bined total of 25 weeks' leave. The 2000 fed eral budget doubled the maximum duratio of combined maternity and parental leav This measure was in part a response t Quebec's announced initiatives in this area an in part to put some reality into the rhetoric o the federal-provincial "National Children Agenda." Parental leave has been extended t a maximum of 35 weeks, which, when adde to the existing 15 weeks' maternity leave, pro vides for a total maximum of 50 weeks' leav for parenting. Allowing recipients of parenta leave to work part-time ($50 or 25 percent o weekly benefits, above which benefits ar reduced dollar for dollar) may widen the pro gram's reach somewhat. So too will the deci sion to reduce the entrance requirement fro 700 to 600 insurable work hours.

On the other hand, there was n increase in parental benefits' earnings replacement capacity, which replaces only 5 percent of maximum insurable earning (though it can be as high as 80 percent fo low-income families with children eligibl for the Family Income Supplement brough in with the Employment Insurance pro gram). While the maximum weekly EI ben efit is $413, the actual average weekl maternity benefit is much lower, at $280 i 1999. The level of benefits affects coverag Many parents are not able to live on tha amount — especially if they are single par ents and EI parental leave is their only sourc of income.

The large increase in the entranc requirements under Employment Insuranc reduced the number of people qualifying no only for regular benefits but also parental leav (the latter requirement was doubled from 300 to 600 hours), thus disqualifying many part-time workers. In its *Analysis of UI Coverage for Women*, the Canadian Labour Congress (2000) calculated that, while close to eighty percent of women between the ages of 25 and 44 are in the paid workforce, only 49 percent of women who gave birth in 1998 received maternity benefits and 46 percent got parental benefits. Younger working women and those with lower earnings were unlikely to receive parental leave. Another problem is that EI does not cover the self-employed — a significant proportion of the Canadian workforce that has grown over time.

In fairness (if that is not being too charitable), the federal government paints a very different picture of the coverage of Employment Insurance (Human Resources Development Canada 2000). It says that the change to hours-based coverage, by making virtually all employment insurable, has extended coverage among low-earning workers. It argues that only half the decline in the ratio of UI recipients to the total unemployed in the 1990s leading up to the shift to Employment Insurance was due to program reforms, while the rest was the result of changes in the labour market (e.g., more long-term unemployed). It also rejects the use of the total number of unemployed as the denominator for calculating coverage, arguing that the latter is too broad because it includes people for whom the program is not intended, such as individuals who have never worked, those who have not worked in the past year or quit their job without just cause, and people who used to be self-employed. Instead, claims Human Resources Development Canada in its *Employment Insurance 2000 Monitoring and Assessment Report*, Employment Insurance covered 80 percent of the unemployed "for whom the program was designed" in 1999 and that coverage according to this definition has remained stable under the new EI program. This rather Orwellian redefinition of coverage will come as little comfort to the many unemployed Canadians who pay Employment Insurance premiums but do not qualify for benefits.

Canada Pension Plan. The CPP and its sister, the Quebec Pension Plan, provide universal coverage to all Canadians who work in the labour force, either for employers or themselves. However, coverage of one of the programs' components — disability benefit — has been subject to expansion or contraction resulting from legislative and administrative changes (Torjman 1999).

Several changes served to increase CPP coverage among persons with disabilities, which almost doubled in the first half of the 1990s (from 182,000 beneficiaries in 1990 to 298,000 by 1995). These changes were rooted in the recommendation of the 1981 Commons Committee on the Disabled and Handicapped to boost benefits and coverage as the first step towards comprehensive reform of income support for Canadians with disabilities — a reform that still has not taken place 30 years after the release of the Committee's landmark report, *Obstacles*.

In 1987, contributory requirements for the CPP disability benefit were relaxed (from at least five of the past 10 years, in order to qualify, to two of the past three years) and retroactivity claims were extended (from 12 to 15 months). In 1992, a private member's bill, Bill C-57, sought to tackle the problem of potential recipients being unaware that the CPP pays disability benefits. Disability claims were opened up to many workers previously denied benefits by lifting the time limit on late applications. In 1993 and 1994, in an effort to reduce pressure on provincial welfare costs, the Ontario government required welfare recipients with disabilities to apply for the federal CPP disability benefit. The Auditor General's 1993 report reiterated the need to improve public awareness of the CPP disability provision, which led to Human Resources Development Canada's launching a major public information campaign. Moreover, the program broadened its scope to recognize additional disability-engendering conditions such as stress, environmental hypersensitivity and chronic fatigue, and non-medical factors (such as the regional unemployment rate, availability of certain jobs and applicants' skills) were taken into account for older applicants (aged 55-64) who typically find it harder to find work (i.e., CPP disability benefit was used as a *de facto* UI program policy to encourage earlier retirement — a practice also then common in several European countries). Finally, the rising number of claims likely meant that the Department could devote less attention to verifying whether existing beneficiaries still were eligible, thus creating a form of caseload inertia.

The rapid rise in the caseload in the first half of the 1990s sparked measures to tighten access to the CPP disability benefit. Administration was sharpened (e.g., regarding reassessments and tracking of clients, administrative data-linking to detect recipients who were receiving benefits from other programs), tougher guidelines were issued for determining medical eligibility (including an end to the use of socio-economic factors) and the appeals system was made more formal and toughened. Back-to-work efforts were increased. These changes contributed to a decline in the number of CPP disability beneficiaries after 1995.

Welfare. The Canada Health and Social Transfer's replacement of the Canada Assistance Plan in 1996 meant that the federal government no longer requires provincial welfare systems to provide income assistance to all persons deemed to be "in need," regardless of category. Most provinces have introduced new rules making it more difficult for certain groups to get on or remain on welfare. The purpose of these tightened eligibility rules is to reduce the size of the welfare caseload (National Council of Welfare 1997).

Quebec, for example, was the first jurisdiction to bring in a "parental contribution." Adults 18 years of age and over who have not yet declared their independence (e.g., they are not married or have no children of their own to support) are considered dependent. Their parents are required to contribute maintenance and support.

Ontario announced in 1995 that an employable person quitting or losing a job without just cause was disqualified from applying for welfare for three months. Several provinces have reclassified single parents with young children as employable — which means that they can remain on social assistance only for a short period before they are expected to start taking "active" work-related measures.

Some provinces, such as Ontario, have completely revamped their welfare systems. In 1997, the province replaced two existing welfare laws with Ontario Works, intended for employable welfare recipients, and the Ontario Disability Supports Program, fo persons with long-term disabilities. Ontari Works has been particularly controversial.

was the first time that any province had introduced a program that made it mandatory for recipients to participate in a work-related or community service program (Torjman 1998). Recently, the Ontario government announced plans to impose mandatory drug testing for welfare recipients and compulsory treatment for those found to have a drug problem; recipients who refuse testing will be cut off benefits.

Other jurisdictions have not undertaken such a fundamental reform, but over the past few years they all have introduced some type of "active programming" — a concept promoted by the OECD. All jurisdictions have introduced measures to encourage the transition from "dependency" to "self-sufficiency." The "active" programs have different name: Supports to Employment Program in Newfoundland, Ontario Works, Employment First in Manitoba, the Saskatchewan Training Strategy, Supports for Independence in Alberta and Productive Choices in the Northwest Territories. Despite the differences in name, the intent is the same: to help move recipients off welfare and into the paid labour market.

While they vary, these programs follow the same general pattern. They seek to provide welfare recipients with the supports and skills to move off assistance as quickly as possible. Help may take the form of job search, preparation of résumés, literacy training, skills development, academic upgrading and job referral.

In addition to the active measures that focus on work skills and requirements, provinces have introduced various supports — such as earnings supplements, extended health benefits or child care subsidies — designed to encourage workforce participation. Jurisdictions have brought in these measures in respect of the NCB reinvestment strategy discussed above.

Disability tax benefits. One aspect of the tax/transfer system that has enjoyed modest, incremental, unheralded but steady improvements in coverage (and, as discussed below, benefits) is tax assistance for Canadians with disabilities (and their supporting families). Eligibility for the disability credit has been broadened to include individuals with severe and prolonged disabilities who require extensive therapy on an ongoing basis. The unused portion of the disability credit can be transferred to a wider group of supporting relatives, including siblings, aunts and uncles. Ottawa added a new supplement of up to $500 to provide more assistance to caregivers of children with severe disabilities. The list of items eligible for the medical expense tax credit has been expanded to include cost of modifications to new homes to assist individuals with severe mobility impairments (Torjman 1999).

However, access to the disability tax credit remains restrictive — and it, in turn, is a requirement for the higher child-care expense deduction for children with disabilities. The medical expense credit allows only a narrow list of eligible items. Apart from a small supplement for the working poor under medical expense credit, non-refundable tax credits provide little or no assistance to the poorest Canadians with disabilities who owe little or no income tax.

Changes in Benefits: Cavalry Charge Against Social Programs or Guerrilla Subversion?

The widespread notion that Canada's income security programs have slashed their benefits is, like the "death of universality," simplistic and overblown. Some important programs (notably welfare and UI) have imposed benefit reductions; others (e.g., public pension programs) remain essentially unchanged; and a few (child benefits and, though only recently, the personal income tax system) have enjoyed real increases in benefits.

Welfare. Welfare has experienced covert and, in some provinces, overt declines in benefits and tightening of eligibility requirements. No jurisdiction indexes its social assistance rates, not even partially, which means that their value decreases in real terms each year by the rate of inflation — even though their face (nominal) value stays the same. While initially this small erosion may seem small — especially in the current era of low inflation — the losses compound over the years, in a deadly flip of the "miracle of compound interest." In 1990, I coined the term "social policy by stealth" to characterize governments' use of relatively hidden technical mechanisms (chiefly non-indexation and partial indexation) to reduce benefits without having to portray these changes as cuts (Battle 1990).

Some provinces, notably Alberta and Ontario, also made overt cuts to social assistance rates, which have hastened the process of benefit erosion. The incoming Conservative government in Ontario slashed rates for most categories by 21.6 percent in October 1995, which rescinded previous administrations' more-than-inflation increases.

As a result of these covert and overt cuts, between 1989 and 1999 welfare benefits for single employables fell in value in nine of 11 jurisdictions for which trend data are available — ranging from a real (inflation-adjusted) loss of 75.3 percent in Newfoundland to 8.2 percent in Saskatchewan (National Council of Welfare 2000). Among single disabled recipients, welfare benefits declined in real terms in seven of 11 jurisdictions, ranging from 26.8 percent in New Brunswick to 1.3 percent in Manitoba. Their value fell in nine of 11 jurisdictions for single parents with one child (from 23.1 percent in Saskatchewan to 0.6 percent in Quebec) and in nine of 11 jurisdictions for couples with two children, ranging from 27.3 percent in Manitoba to 7.8 percent in British Columbia.

Measured in terms of the Low Income Cut-off for the largest city in each province, welfare incomes (i.e., social assistance plus child benefits, refundable tax credits and other social benefits) in 1999 for a single parent with one child under age two, for example, ranged from 49.8 percent of the low income line in Manitoba to 50.1 percent in Alberta, 57.0 percent in Quebec, 59.5 percent in Saskatchewan, 59.8 percent in Prince Edward Island, 60.1 percent in British Columbia, 60.3 percent in Ontario, 61.7 percent in New Brunswick, 62.9 percent in Nova Scotia and 69.7 percent in Newfoundland (Nationa Council of Welfare 2000).

Welfare benefits for single person considered able to work are even lower. I 1999, rates ranged from a mere $1,341 o 9.1 percent of the low income line in th largest city in Newfoundland to a "high" o $6,330 or 40.7 percent of the poverty lin in Ontario; benefits for single persons wit disabilities went from a low of 42.1 percen of the low income line in Alberta to a hig of 70.1 percent in Ontario. For two-paren families with children, 1999 welfa incomes ranged from a low of 45.1 percen of the low income line in Quebec to 62. percent in Prince Edward Island.

Unemployment Insurance. Several changes have diminished the value of UI benefits as well. In 1993, UI benefits were reduced from 60 to 57 percent of insurable earnings; in 1994, they were lowered again, to 55 percent. The upper limit in the band of earnings over which benefits are calculated (called the "maximum insurable earnings level") fell from $42,380 to $39,000 when Employment Insurance replaced UI on Canada Day 1996, and this level was frozen until 2000 (subsequently extended to 2001), which meant that it has declined both overtly and covertly in real terms. Maximum benefits thus dropped from $448 to $413 a week. The maximum length of claim was reduced from 50 to 45 weeks.

The new EI scheme also imposed an "intensity rule." Recipients faced a penalty of a one percentage point reduction in their benefit replacement rate after each 20 weeks of benefits, reducing the rate from 55 percent to as low as 50 percent. This rule was intended to reduce the heavy repeat reliance on EI by seasonal workers, encouraging them to seek full-time work.

Employment Insurance continues UI's practice of imposing an income test or "clawback" that partially taxes back benefits from better-off recipients. However, the clawback now affects more recipients because the income threshold for the clawback dropped from (net) $63,570 to $47,750. Clawed-back recipients must repay their benefits at the rate of 30 percent above net income of $39,000 for those collecting benefits for 20 weeks or more, and above $47,750 for those with less than 20 weeks.

The tightening of UI was not politically painless. Several Liberal MPs in Atlantic Canada (hard hit by the changes) lost their seats in the 1997 federal election due in part to the controversy over EI. These included the Minister of Defence, Doug Young, who had been Minister of Human Resources Development Canada. As a result, the Liberals back-pedalled somewhat as they went into the 2000 election; they recently rescinded the intensity rule, raised the threshold for the clawback of benefits from $47,750 to $48,750 in net income, and abandoned the lower ($39,000) threshold for those collecting benefits for 20 weeks or more. As well, recipients of maternity, parental and sickness benefits no longer are subject to the clawback.

Canada Pension Plan. In consultations on the most recent round of reform of the CPP, Ottawa put forward various proposals aimed at ensuring the program's financial and political sustainability in the face of rising demands from an aging population, especially the baby boomers whose leading edge will hit the pension system as early as five years from now (i.e., boomers born in 1946, who are eligible for CPP retirement benefits as early as age 60). Options to cut benefits included reducing the earnings replacement rate for new retirees, tightening the dropout provisions for years of no or low earnings and child-rearing, raising the age of retirement, partially de-indexing benefits, tightening the administration and work requirements for disability benefits, and killing the death benefit. But there was widespread opposition to cutting CPP benefits and general support for dealing with the sustainability problem chiefly by means of a radical change in financing — a move from pay-go to partial funding (discussed later in this paper).

However, CPP benefits did not escape completely. Ottawa and the provinces agreed to a stealthy trimming of benefits through technical modifications that affect future pensioners and that few people will understand. Although these changes shaved the value of retirement benefits slightly (by 1.7 percent), the losses will hurt lower-income pensioners and their survivors hardest in relative terms.

Changes have been made to the way in which benefits are to be calculated for both retirement pensions and the earnings-related portions of the disability and survivor benefits. Benefits were based on the average Year's Maximum Pensionable Earnings (YMPE) for the last three years, but in future will be calculated on an average for the last five years. While this change may be more consistent with the majority of private plans, it will reduce benefits for most workers because wages usually reach their peak at the end of a person's working life. The overall average based on a five-year span typically will be lower than an overall average based on a three-year span, which generally includes the highest level of earnings.

Several changes were made to the disability benefit. Eligibility for this benefit has required that contributions be made in two of the past three years or five of the past 10 years; this is being lengthened to four of the past six years. Disability benefits no longer will be paid to estates, and Canadians already receiving early retirement benefits will not be eligible for disability benefits. The administration of the benefit will be tightened through more frequent reassessments and new appeal procedures.

The way in which retirement benefits are calculated for disability beneficiaries also is being be modified. These pensions used to be based on the YMPE when the recipient turned 65 and then indexed to prices. The retirement benefit for disability beneficiaries now will be based on the YMPE at the time of disablement (regardless of when this occurred) and subsequent price indexing. In addition, disability benefits will no longer be paid to estates, and recipients of an early retirement benefit will no longer be eligible for disability benefits.

Prior to the Finance Minister's announcement, the combined survivor-disability benefits were based on a ceiling equivalent to the maximum retirement pension plus the larger of the two flat-rate components of the survivor and disability benefits. The new ceiling is now one maximum disability pension. There has been no change to the ceiling of the combined survivor-retirement benefits.

The death benefit was not withdrawn but its value has been reduced from its former level of six months of retirement benefits to a maximum of $3,580 with wage indexation to six months of retirement benefits to a maximum of $2,500 with no indexation, so it will shrink steadily in future.

Elderly benefits. If Social Security (the public pension system in the United States is the "third rail" of American politics, then old age pensions are the fourth rail o Canadian politics, after medicare. Both th Conservative and Liberal government received a jolt when they entertained option to slow the relentless rise in expenditures o elderly benefits. In its first term, th Mulroney government was forced by media-empowered pensioners' lobby (supported by social advocacy groups and eve the corporate sector) to back off from its pro posal to partially de-index OAS benefit which remained fully indexed. A decad later, the Liberals backed down from the more radical proposal to restructure elderly benefits, the Seniors Benefit; this reform would have had a progressive redistributive impact, increasing benefits for low- and modest-income seniors while reducing or removing payments to upper-income seniors, and fully indexing the threshold for the new program's family income test (Battle 1997, Government of Canada 1996). (The last real increase to federal elderly benefits — to the income-tested GIS — was under the Trudeau government, back in 1984.)

However, the Tories managed to implement stealthy, politically safe cost-trimming modifications to elderly benefits that their Liberal successors gratefully left in place. The Conservatives' 1988 income tax reforms shifted most exemptions and deductions to non-refundable credits, thus reducing their value (including two pension tax expenditures, the age exemption and pension income deduction) for higher-income pensioners. In 1994, the Tories imposed an income test on the age credit, reducing or removing tax savings from middle- and upper-income taxpayers. The Mulroney government also made a fundamental structural change to the tax/transfer system, ending full indexation in 1986. The age credit was partially de-indexed and the pension income credit frozen — changes that increasingly eroded the value of these tax breaks over the years. The Conservative-imposed clawback on OAS also undermined the value of benefits for higher-income pensioners subject to the clawback: as the partially de-indexed income threshold for the clawback declined steadily in real terms each year, more and more seniors (at declining income levels) became subject to the clawback and, while they still ended up with partial benefits even after the clawback, the latter effectively took a bigger bite out of their payments. In addition, the income level above which benefits are fully taxed back fell in small but steady steps and so also eroded benefits. As noted earlier, only a small percentage of seniors (5 percent, at last count) are subject to the income test on OAS, though that percentage would have continued to increase over the years had the Liberals not restored full indexation as of 2000.

While the Liberals finally restored full indexation to the federal tax/transfer system, they did not fully restore tax credits and thresholds to their original value. And while the threshold for the income test on OAS was fully indexed, thus rising from $53,215 in 1999 to $53,960 for 2000, the latter amount is worth only $42,540 in 1989 dollars (as opposed to it original $50,000 level in 1989). This means that the threshold fell by $7,460 in constant dollars — a sizable 14.9 percent decline — between 1989 and 2000 as a result of partial de-indexation. Nonetheless, the restoration of full indexation is a major improvement in Canadian tax/transfer policy, since it halts the stealthy slide in the value of a number of important tax benefits, including those for seniors, and solidifies ongoing increases to the CCTB.

Tax deductions for private pension contributions. Successive federal governments have been of two minds about tax breaks for private pension and retirement savings, wanting to enrich them but pulling back for fear of the enormous costs involved, as these are among the most expensive of all tax expenditures — an estimated net cost of $15.3 billion in 2001, or more than double what Ottawa spends on the CCTB. The Mulroney government initially announced a large, phased increase in the tax deduction limit for contributions, eventually to reach $15,500 and then be indexed to average wages, but subsequently slowed the schedule of increase; the level was frozen at $7,500 from 1988 through 1990, then went up to $11,500 in 1991, $12,500 for 1992 and 1993 and $13,500 in 1994. The Liberal government's 1996 budget turned to the tried-and-true tactics of social policy by stealth and announced that the tax deduction limit would be frozen at its current level of $13,500 until 2003, then increased to $14,500 in 2004 and $15,500 in 2005. This freeze, like the Tories' before it, is reducing the maximum amount of federal and provincial income tax savings for contributors and, as a result, slowing the rising cost to the federal and provincial governments of the resulting tax expenditure. Ottawa eliminated the seven-year limit on carrying forward unused Registered Retirement Savings Plan contributions, a change that will help taxpayers make up for years when they are unable to contribute much or anything to their RRSPs. On the other hand, it lowered the maximum age for contributing to Registered Pension Plans and RRSPs from 71 to 69, which will reduce the tax expenditures for private pensions both by no longer allowing tax filers to claim tax deductions at ages 70 and 71 and by requiring them to start drawing their pensions (which are taxable) two years sooner, thus adding to the federal and provincial governments' tax coffers.

Disability tax benefits. There has been modest but badly needed progress in tax benefits for Canadians with disabilities (and their supporting families). The disability tax credit amount was increased in 2001 from $4,293 (providing federal income tax savings
of $687 and combined average federa
provincial tax savings of $1,030) to $6,00
($960 in federal tax savings, $1,440 averag
federal/provincial tax savings) and now
fully indexed. The tax credit amount for car
givers of dependent relatives who are elder
ly, infirm or disabled rises in 2001 fror
$2,386 ($382 federal tax savings, $573 aver
age federal/provincial savings) to $3,50
($560 federal, $840 average federal/provin
cial tax savings). The child care expens
deduction (which delivers income tax saving
that rise with the claimant's marginal ta
rate) also increases in 2001, from $7,000
$10,000, on behalf of children eligible fo
the disability credit.

Child benefits. The income security po
icy that has seen the most significant increas
is federal child benefits. Over the past fe
years, Ottawa has made a series of substan
tial increases to the CCTB that has booste
payments to low-income families.

In 1997, the previous Child Ta
Benefit paid a maximum $1,020 per chil
plus an earnings supplement worth up
$500 per family. It was replaced in 1998
the CCTB, which eliminated the Workin
Income Supplement for the working poor
favour of a larger, equal maximum benefit f
all low-income families (whether working
on welfare or UI). Currently (as of Ju
2001), the maximum CCTB is $2,372 f
one child ($1,255 in the National Chi
Benefit Supplement and $1,117 in bas
CTB), $2,172 for a second child ($1,0
Supplement and $1,117 basic Credit) ar
$2,175 ($980 Supplement, $1,117 bas
Credit and $78 additional basic Credit f
each child more than the second) for t
third and each additional child. The feder
government's stated target is to increase t

maximum CCTB to a forecast $2,520 for one child, $2,308 for a second child and $2,311 for each additional child by 2004. (These rates will come within range of meeting the Caledon Institute's proposed $2,800 level for 2004 dollars.)

Granted, partial de-indexation corroded these increases, though the latter outpaced the losses so that low-income families still saw real increases in their federal child benefits. Ottawa then went one better and restored full indexation effective in 2000. Maximum payments went from $2,540 for a working poor family with two children ($2,040 for non-working poor families) in 1997 to $4,828 for all low-income families with two kids by 2004. Adjusted for inflation, this amounts to a 65 percent real increase in federal child benefits for working poor families and 106 percent for other poor families.

By 2004, Ottawa will spend a forecast $9 billion on the CCTB, which, in inflation-adjusted 2004 dollars, is a $3.3 billion or 58 percent real increase since the reform began. Low-income families will receive about $6 billion, or two thirds of the $9 billion total spending in 2004. Non-poor families will get the other $3 billion, or one third.

A small but vital advance is that the federal government, in its 1999 and 2000 budgets, began restoring child benefits for non-poor (mainly modest- and middle-income) families — improvements protected by the restoration of full indexation in 2000. In so doing, Ottawa has broadened the scope of reform beyond the child benefit system's anti-poverty objective to begin bolstering its horizontal equity performance. Thus the two fundamental objectives of child benefits are being simultaneously strengthened.

Under the NCB agreement, enhancements in federal child benefits have enabled provinces and territories to redirect social assistance savings into a range of income security programs and social services for low-income families with children. Provincial reinvestments to date total $305.2 million in 1998-99 and $498.2 million in 1999-2000. Child care took first place — 39.4 percent in 1998-99 and 34.6 percent in 1999-2000. This was followed by income-tested child benefits and earnings supplements (31.1 percent in both fiscal years), initiatives by Ontario municipalities and by Aboriginal communities (21.8 and 20.9 percent), early childhood development (4.5 and 9.3 percent) and supplementary health care (3.1 percent the first year and 4.1 percent the next year) (Federal/provincial/territorial governments 2001).

It must be emphasized that the increase in federal child benefits does not affect all low-income families equally. The most controversial feature of the federal-provincial NCB reform — one that lies at the core of its policy rationale — is its differential treatment of welfare families and other low-income families (e.g., the working poor and EI poor). Families on social assistance in most provinces are seeing no net increase in their overall child benefits, because their provincial child-related payments (from welfare) are reduced ("clawed back," to use the popular social policy opprobrium of our time) by the amount of the increase in federal child benefits. Working poor families, on the other hand, are seeing a substantial real increase in child benefits, which they receive only from the federal government in order to bring them closer to the level of welfare families, which traditionally got about twice the amount of child benefits as the working poor.

Bracket creep and credit corrosion. Partial de-indexation of the income tax system from 1986 to 1999 eroded the value of major social benefits in several ways (Battle 1998, 1999; Poschmann 1998). As already explained, partial indexation of the income thresholds for OAS and the CTB slowly but steadily ate away at the value of benefits for higher-income recipients; in addition, the CTB rate was partially de-indexed (which was not the case with OAS benefits), affecting recipients at all income levels. But partial de-indexation also imposed hidden annual federal and provincial income tax hikes on all taxpayers and added more (poor) people to the tax rolls by lowering the taxpaying threshold; while "bracket creep" received public attention, in fact it affected only a minority of taxpayers, whereas what I called "credit corrosion" (i.e., the steady decline in the value of partially de-indexed tax credits) hit all taxpayers each year. These stealthy and generally regressive income tax hikes exacerbated losses due to the partial de-indexation of child benefits and the refundable GST credit. Yet another negative effect of partial de-indexation that never entered the public discourse over social policy reform stemmed from the interaction between income taxes and social benefits; because such key programs as OAS, Family Allowances and C/QPP are (or were, in the case of the now extinct FA) subject to federal and provincial income taxes, the value of their after-tax benefits fell gradually as partially indexed income taxes took an ever-increasing bite. Family Allowances actually suffered a double whammy, as partial de-indexation eroded their value and increased the tax take.

Broad-Based Geared-to-Incom Benefits Trump Demogrants and Needs-Tested Programs

The angst among universalists over t
"death of universality" has served to obscu
an equally if not more important shift
Canadian income security policy — the di
placement of demogrants and needs-teste
benefits by income-tested benefits deliver
through the income tax system. I regard th
development as the most important advan
in contemporary Canadian social policy -
ironically, a trend born in and out of the an
deficit campaign.

Two of the bulwarks of the post-w
universalist welfare state in Canada -
Family Allowances and OAS — we
demogrants, meaning that they covered a
children and all seniors, respectively, regar
less of economic circumstance and need.
series of changes in the 1980s and 199
transformed these demogrants into incom
tested programs in which income plays tw
key features — it determines eligibility f
the program (i.e., its scope, as discussed ea
lier) and it is used to gear the amount of be
efit progressively to the amount of incor
(i.e., the distribution of benefits).

Unfortunately, universalist critics
the trend away from universal towar
income-tested programs fail to distingui
between these two fundamental characte
istics of income-tested programs. The co
fusion stems from the popular b
misunderstood term "targeting." On t
one hand, it is true that income-test
benefits like the federal CCTB and refur
able GST credit and various provincial p
grams (including refundable tax credi
earnings supplements and new incon
tested child benefits) are "targeted to

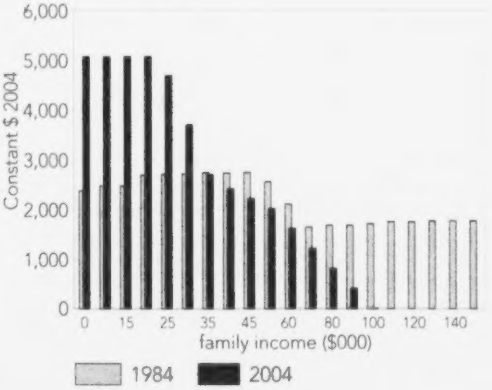
poor" in the sense that they pay their maximum amount to low-income recipients and a diminishing-to-zero amount to non-poor recipients. But they are not targeted to the poor in terms of their scope or coverage: to the contrary, the large majority of families with children and of seniors still qualify for the CCTB and OAS, though they receive less than the full amount; and while provincial income-tested programs are, by design, more narrowly targeted in terms of reach, some (e.g., the British Columbia Family Bonus) serve modest-income as well as poor families.

Earlier, I debunked the criticism that "targeting" of previously universal child and elderly benefits has shrunk their reach; in fact, the large majority of families with children and of seniors receive benefits. Here, I focus on the second dimension of targeting — targeting to achieve a geared-to-income, progressive distribution of benefits.

Child benefits. Chart 10 illustrates the distribution of federal child benefits under two systems in 2004 — the "old" system (Family Allowances, the children's tax exemption and the refundable child tax credit) in its final year (1984) and the new CCTB as of 2004. The 1984 values have been converted to constant 2004 dollars. In this example, families have one child under age seven and one between seven and 17.

The old system suffered from vertical inequity: it was not logically geared to income; poor families got less than lower- and middle-income families and not much more than those with high incomes. The old system also resulted in horizontal inequity: families with the same income but different mixes of spousal income received different levels of total benefit, because two of the three benefits (Family Allowances and the children's tax exemption) were based on individual income and only the refundable child tax credit on family income.

CHART 10
Federal Child Benefits, Couples with Two Children, 1984 and 2004



The new CCTB allocates its payments more progressively according to family income. Maximum benefits ($5,063) are the same between zero income and net family income of $23,098 and then decline steadily to disappear at $100,225. Families with the same total income get the same amount of benefits, no matter what the mix of spouses' incomes.

Comparing the old and new systems, families up to $35,000 in net family income enjoy gains while the rest suffer losses. The distributional impact of the changes is progressive. Income increases from child benefit reform range from a hefty 25.9 percent for families at $10,000 to 3.3 percent at $30,000; losses range from a low of 0.1 percent of income at $35,0000 to a high of 1.7 percent at $100,000. So while universalists may lament the decline in child benefits for non-poor families, in proportional terms the losses are very small indeed. (Note that I am reporting on but not wholeheartedly applauding the level of child benefits under the new system: Caledon has advocated a much more substantial increase in the CCTB that would boost payments to poor families and extend significant increases to middle-income families.)

But the changes to federal child benefits are only part of the story of the rise of broad-based income testing. The NCB has widened the scope of reform to include provincial income assistance for families with children. Income-tested child benefit programs, both federal and provincial, are displacing traditional social assistance on behalf of children.

While I regard the development of broad-based income testing as a major advance in social policy, it has not been embraced by non-governmental organizations. To the contrary, most social advocacy groups and the New Democratic Party have attacked the NCB for "discriminating against welfare families" that are characterized (not always accurately) as the "poorest of the poor" (Baker Collins 1997; Durst 1999; National Council of Welfare 1998).

Social assistance families indeed do not get an increase in their net child benefits. They see an increase in the proportion coming from the federal CCTB and new provincial income-tested provincial child benefits, but an offsetting decline in the share from traditional needs-tested social assistance benefits on behalf of children. By contrast, the working poor and other low-income families not on social assistance enjoy a real increase in their child benefits. This process has given rise to a great deal of anxiety on the part of vulnerable social assistance recipients and anger on the part of social groups.

To rankle the critics even more, governments have touted the NCB as a key anti-poverty measure. But it arrived after several years of overt and/or covert cuts to social assistance benefits that had shrunk welfare families' income. It also was introduced amid growing efforts on the part of most provinces to require recipients to enter the workforce. These efforts took the form of "workfare" and tightened eligibility rules in many provinces.

The criticism that the NCB "discriminates" against welfare families misses the essential point of the reform. Its purpose is to restructure income security by equalizing child benefits for all low-income families. It seeks to raise child-related payments for poor families not on social assistance *up to* the level paid to social assistance families.

A key issue here is strategy. Ottawa should have fully implemented the reform (as proposed in the 1995 Caledon report *One Way to Fight Child Poverty*) within a short time (e.g., two years) rather than phasing it in through an incremental, multi-year approach (Battle and Muszynski 1995). The federal government also should have put more money on the table. It could have displaced social assistance-delivered child benefits within two years. It also should have committed to raising the new CCTB to a level high enough to exceed the previous amount of combined federal and provincial child benefits paid to social assistance families.

Social assistance families would have seen a smaller net increase in child benefits than the working poor, but at least they would have been a little better off than before. The idea that one type of benefit was simply replacing another would have been apparent and easily explained The incremental strategy that was adopt ed instead has contributed to the criticism of the NCB.

However, even without a real increase in child benefits for social assistance families, they will be better off under the NCB than under the old mix of federal child benefits and provincial welfare child benefits.

Social assistance is a highly stigmatizing program prone to overt cuts or steady erosion on the part of the provinces. For example, a get-tough-on-social-assistance approach was a prominent part of the Conservative government's election platform in Ontario. It followed through in October 1995 with a 21.6 percent cut in social assistance for most recipients. The cuts did not harm the government's political fortunes — indeed they probably helped. The Ontario Conservatives — residualists in their philosophy of social policy — were easily re-elected, unlike the previous two provincial administrations, which had raised social assistance rates.

Income-tested social programs, in contrast to social assistance, have seen real and substantial increases in benefit rates for lower-income recipients, with broad public support. The CCTB, which was fully indexed as of 2000, is in a far better position than social assistance to enjoy further increases in the coming years. If one is truly worried about the adequacy of social assistance recipients' incomes, the best option is to provide a larger proportion of their incomes out of a politically popular and expanding program, such as the CCTB.

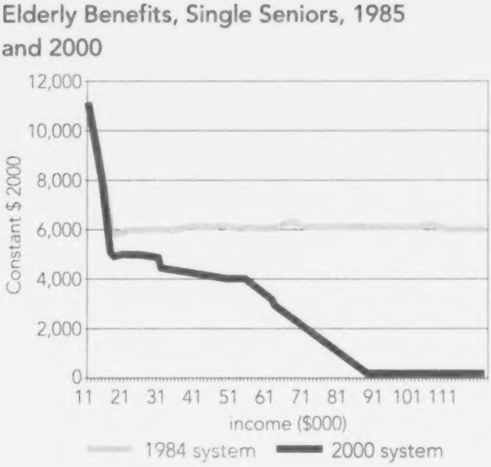
It is also essential to remember that Canada's welfare population is a dynamic, ever-changing group. About half of social assistance recipients leave for the workforce every year. Under the old system, these recipients lost all of their social assistance-delivered child benefits, but the CCTB is a "portable" benefit that accompanies families no matter what their primary income source or how often it changes.

No longer will social assistance families lose precious income from child benefits if they move to the workforce. Working poor families will continue to receive their child benefits from the federal government even if they go on welfare or EI. If they improve their earnings, families will continue to receive the CCTB — though in a smaller amount if their income increases far up the income scale. Moreover, some social assistance families are benefiting from some of the provincial reinvestments.

Another important advantage is that social assistance families receive the CCTB along with the large majority of Canadian families, and without stigma — in stark contrast to needs-tested welfare with its elaborate, intrusive and demeaning administrative apparatus. Payment of the CCTB (and provincial income-tested benefits) is automatic and painless, involving little or no contact with government officials and a simple annual test of income administered through the income tax system — a mechanism that, perhaps ironically, is the new instrument of universality since it now touches virtually all Canadians, the poor along with the middle class and the affluent. Many people dislike paying taxes, but they surely feel no stigma in doing so — rather, a sense of "grumbling inclusion" or "negative solidarity" occasioned by the legal requirement to comply, whether they like it or not. More seriously, the CCTB is an effective instrument for social solidarity.

Elderly benefits. The reform of elderly benefits, as with child benefits, has created a progressive distribution of benefits and thus

CHART 11
Elderly Benefits, Single Seniors, 1985 and 2000



advanced the objective of vertical equity. However, this change (desirable, in my view) has been achieved at the expense of horizontal equity, since middle-income and upper-income seniors get less than in the past — though the losses are themselves progressive, hitting the small group of affluent seniors hardest.

Chart 11 compares the overall distribution of federal elderly benefits in 1985 and 2000 for single seniors (the picture is much the same for couples). The 1985 benefits consisted of net OAS (i.e., net of federal income tax payable on the benefit), the GIS and federal tax savings from the age exemption and pension income deduction. The current 2000 benefits are net OAS (i.e., benefits after federal income tax and after the income test on higher-income recipients), the GIS and federal income tax savings from the non-refundable age credit and pension income credit; provincial tax savings are excluded because recent reductions in provincial tax rates would confuse the issue. The 1985 values are expressed in constant 2000 dollars.

The previous (1985) elderly benefits system was progressive at low incomes (up to $18,000 on the graph) but relatively fl
for all other incomes. The progressivity
taxable OAS and the steeply income-teste
GIS were offset by the regressive age exemp
tion and pension income deduction, whos
value increased with the taxpayer's margina
tax rate. This pattern scored poorly on th
vertical equity dimension, because pension
ers with widely differing incomes receive
virtually the same amount of elderly bene
fits. For example, a single senior wit
income of just $18,000 got $5,855 in feder
al benefits — $115 *less* than the rare senio
with an income of $120,000, or almos
seven times as much.

The new (2000) elderly benefits syste
is progressive throughout most of the incom
range, though flat above $87,000 in the cas
of a single senior. Old Age Security is pro
gressive by virtue of its taxability and th
income test applied for affluent seniors; th
sharply income-tested GIS also is progressiv
The income-tested age credit's distributio
al pattern is imperfectly progressive, in tha
it shows an up-flat-down pattern (it phase
in between about $12,000 and $15,00
remains at that maximum amount unt
$26,000 and then declines to phase out b
around $50,000). The pension income cre
it pays the same small benefit to almost a
seniors with some private pension incon
(excluding the poorest, who are below th
taxpaying threshold). Once OAS phases ou
at $87,000, the only benefit remaining is th
non-refundable pension income credit, whi
effectively maintains a token universality
the system.

Comparing the old and new system
distribution of benefits, it is clear that th
increase in vertical equity was achieved at th
expense of horizontal equity and with atte

dant expenditure savings to the federal and provincial governments. While the new system pays no more to poor seniors, it pays substantially less to middle- and upper-income pensioners, though — as with child benefits — the losses are progressive throughout most of the income range.

The failure of the Seniors Benefit reform means that elderly benefits — unlike child benefits — still suffer a form of horizontal inequity. Couples with the same total income receive different amounts of elderly benefits depending on the mix of spouses' income (from the CPP, private pensions, employment and other sources), because of the use of different income tests — individual income tests for OAS and the age credit, a family income test for the GIS. As a result, "one-income couples" (i.e., elderly couples in which one spouse has most or all of the non-OAS/GIS income) get more benefits than "two-income couples" (i.e., couples in which both spouses have significant amounts of non-OAS/GIS income) at the lower and upper ends of the income spectrum. Throughout most of the income range, two-income couples get more elderly benefits than one-income couples. The Seniors Benefit would have corrected this horizontal inequity because it would have used family income rather than the current oil-and-water mixture of individual and family income tests.

Simplification and Rationalization of Benefits

One of the perennial aims of reform is to reduce the complexity of Canada's social programs, a complexity that results from several factors — for example, delivery by all three levels of government and by the public, private and voluntary sectors; different and sometimes competing objectives and associated designs; and administration by individual programs versus by the income tax system. There are concerns that scarce resources are being wasted by duplication and overlap, and that consumers find it difficult to understand what benefits are available and from whom.

The 1980s and 1990s saw some success in rationalizing the income security system, though I doubt that Canadians have any better grasp of who delivers what. Indeed, a perhaps inevitable fallout of reform — whether intended or accidental — is that it tends to confuse people even more.

The NCB set as one of its objectives the reduction of overlap and duplication, and child benefit reform has delivered reasonably well so far. Even before the NCB, Ottawa made a series of changes that simplified and rationalized its system of child benefits. Three programs (Family Allowances, the children's tax exemption and the refundable child tax credit), with differing designs and a resulting irrational distribution overall, producing inherent vertical and horizontal inequities, were replaced by a single, family income-tested CTB that achieves horizontal and vertical equity. Under the NCB, the federal government further simplified its program by doing away with the Working Income Supplement for the working poor, resulting in the same maximum payment to all low-income families with children. Moreover, administrative efficiencies and savings have been achieved through the new provincial income-tested child benefits typically being administered on behalf of the provinces by the federal government, through the personal income tax system. The NCB also has resulted in administrative data-sharing by the two levels of government.

On the other hand, the fiscal imperative to focus increased spending on rationalizing and improving child benefits for poor families led to a complex and virtually incomprehensible two-tier design of the CCTB, confusingly labelled the "base Child Tax Benefit" (i.e., the old CTB, with its low reduction rate, wide reach and gradual decline in benefits as incomes increase above a threshold) and the "National Child Benefit Supplement" (with a different threshold and higher reduction rates required to target the increased spending on low-income families). To confuse matters further, the changes have been gradually phased in, with numerous changes to benefits, thresholds and reduction rates. Whether all this makes any difference to families themselves is a good question, since the CCTB (like its predecessor, the CTB) is calculated automatically for them through the income tax machinery. (I return to this issue in the discussion of disincentives.) When Michael Mendelson and I interviewed a group of working poor families receiving the new income-tested BC Family Bonus, some confused the provincial initiative with the old (and extinct) federal baby bonus — an understandable confusion, though one that would perturb the British Columbia government, which want to obtain public credit for its reform effort (and cost).

The displacement of provincial social assistance benefits on behalf of children by increased federal child benefits doubtless has sown some confusion among welfare families and fuelled the nonsensical allegation from some critics and journalists that the CCTB does not go to welfare families. If, in fact, some provinces have offset welfare benefits by more than the increase in federal payments, then they are breaking the NCB agreement negotiated between the federal and provincial governments: I know of no such proof that this practice has occurred, but the issue must be carefully monitored and assessed by the ongoing evaluation of the reform. Nevertheless, the very fact that the NCB is attempting to make deep structural changes in both federal and provincial systems of child benefits — in the interests of building a simpler, fairer and more rational system — is bound to result in some confusion, if only because the old system was so irrational and hard to explain and the proof of reform is in the new pudding.

Under the NCB reinvestment agreement, provinces are allowed to reduce their welfare expenditures on children provided they allocate the savings to other provincial programs and services for low-income families with children, such as child benefits, earnings supplements, early childhood development and the extension of supplementary health benefits. The same reinvestment process applies to Aboriginal communities on reserves. Some critics have complained that the reinvestment agreement allows the provinces too much leeway in deciding how to reinvest their welfare savings and thus contributes to a more variable, more complex and less coherent "national" system of supports for families. Defenders of the reinvestment agreement counter that such flexibility is desirable, since it allows provinces to develop and deliver programs based on their own needs, resources and policy priorities.

The other notable attempt to rationalize and simplify a set of disparate benefits was the ill-fated Seniors Benefit. This reform would have combined four income security programs for the elderly — OAS, the GIS, the age credit and the pension income credit — into a single income-tested Seniors Benefit paying its maximum amount to low-income seniors and a diminishing amount as incomes increased above a threshold — that is, a similar structure to single-tier refundable credits such as the GST credit, refundable child tax credit and CTB (though not the CCTB, which is two-tiered). Not only would four programs have been recombined into one, but the horizontal inequity caused by an oil-and-water mix of individual income-tested benefits (OAS, the age credit and the pension income credit) and family income-tested benefits (the GIS) would have been resolved by moving to a single, family income test. However, Ottawa withdrew the proposal in the face of political opposition from women's groups, labour, the NDP and Bay Street (Canadian Chamber of Commerce; Slater 1998).

Changes in Social Insurance Financing: From Pay-Go to Partial Funding

Canada Pension Plan. One of the biggest changes in Canadian social policy is the ongoing shift from pay-go to partial funding of the CPP. Canada Pension Plan contributions will increase substantially over seven years (from 1997 through 2003), but will level off once they achieve the so-called "steady-state" rate of 9.9 percent of contributory earnings (divided equally between employees and employers) — with no increases thereafter. Contributions will exceed expenditures, thus building up a fund that is being invested in the market in a diversified portfolio of assets, following the practice of large employer pension funds in Canada and other countries. Earnings on the investments are intended to help reduce future contribution rates over what they otherwise would be.

The other financing change to the CPP is a freeze of the Year's Basic Exemption, which until now has been indexed to wages. In 1997, the YBE was $3,500, calculated as 10 percent of the $35,800 Year's Maximum Pensionable Earnings (the YMPE will remain wage-indexed). By freezing the YBE, which will fall in value each year, the base of contributory earnings will increase (i.e., more earnings will be subject to CPP contributions), and thus future contribution rates can be lower than otherwise necessary. The Caledon Institute calculated that the $3,500 YBE will be worth $2,722 in 2003 and $822 in 2030 (in constant 1997 dollars). The federal government has estimated that, by freezing the YBE, by 2030 the (pay-go) rate would be reduced by 1.63 percentage points.

Freezing the YBE — a stealthy change that few Canadians will recognize or understand — proved irresistible to governments concerned about reducing future contribution rates. By comparison, the rapid ramp-up in contributions over the next few years will be very visible and might prove to be somewhat more difficult politically, partially offsetting income tax reductions.

The YBE offers ("offered" is a more accurate term, since it will decline in future) two advantages to contributors with below-average earnings. First, it reduces their contributory burden because the first $3,500 of earnings are exempt. Second, retirement pensions are calculated on the full range of earnings up to the YMPE, not the narrower band of earnings (between the YBE and the YMPE) on which contributions are paid. As a result, Canadians who earn below the average wage receive relatively more CPP retirement benefits in relation to their contributions than those who earn the average wage or higher.

Contributors to the CPP can claim a non-refundable tax credit (calculated as 16 percent of the amount they contribute) to ease the burden of their contributions. Adding in provincial income tax savings, which vary from one province to another, on average the CPP tax credit is worth about 24 percent of contributions.

The move to partial funding and the freeze on the YBE will impose a heavier burden on Canadians with below-average earnings than on those in the higher ($50,000-and-up) range. For example, a $20,000 employee's net (i.e., after-tax credit) contributions will rise from $337 or 1.7 percent of earnings in 1996 to $625 or 3.1 percent of earnings in 2003, the year that the steady-state rate will be reached. A $50,000 employee's net contributions will increase from $652 or 1.3 percent of earnings in 1996 to $1,181 or 2.4 percent of earnings in 2003. (All dollar figures are in inflation-adjusted 1996 amounts.)

Measuring the net increase in contributions (2003 versus 1996) as a percentage of earnings, the result ranges from a high of 1.6 percent for those earning just $6,000 to 1.5 percent for those earning $35,000 (roughly average earnings) and then declines with increasing income to just 0.5 percent of earnings for employees earning $100,000. The distributional pattern is identical for the self-employed — a growing group in the labour force — except that their increased burden is double that of employees. However, the 2000 federal budget announced that the self-employed will be able to deduct the "employers" share of CPP contributions fully from taxable income, putting them on an even playing field (after tax) with employees with respect to CPP contributions.

Women and younger workers will be hardest hit in relative terms during the seven-year transition to partial funding, since they cluster at the lower end of the earnings spectrum. Among female CPP contributors, 79 percent earn less than the YMPE (i.e., about the average) and 43 percent earn less than half the average. The large majority of young contributors earn below the average.

On the other hand, Canadians with low or modest employment earnings stand to benefit most in the longer term from the financing changes. The steady-state contribution rate will reach 9.9 percent in 2003, and then is supposed to remain level, whereas the pay-go rate would have kept increasing. After 2016, the pay-go rate would exceed the partial funding rate and rise year after year.

Moreover, partial funding is intended to restore public confidence in the long-term viability of the CPP — a pension program that is crucial to low- and modest-income Canadians, who rarely work for employers offering private pension plans or save much, if anything, in individual retirement savings plans. The growth of a CPP fund that will be invested broadly in the market should appeal to the many Canadians who either do not understand or do not accept the pay-go system in which there was nothing more than a small contingency reserve. The baby boom generation, in effect, will be paying for part of its own pensions and generations X, Y and Z will pay lower contributions than they would under the old (pay-go) system, which should to some extent address the issue of the CPP's alleged intergenerational unfairness.

Unemployment Insurance. Canada's other major social insurance program, U/EI, also has gone the partial financing route in reality, though the change was not formally acknowledged as such. Although premiums have been lowered several times in recent years, they still have been set higher than required to pay current benefits and weather the cost-boosting impact of a recession; in 1999, the EI surplus was a staggering $26 billion. Despite recurrent complaints from social groups, labour and business lobbies and the Auditor General, the Liberals have maintained the EI surplus because it was an important weapon in the war against the deficit (it is counted as revenue) and remains a key tax in the post-deficit period — especially when income taxes are being substantially reduced.

As is the case with the CPP, the financing changes to EI are regressive. The Maximum Insurable Earnings (MIE) declined first because of its overt reduction and then steadily until 2000 by "stealth," through lack of indexation to the change in the average wage. A lower MIE narrows the earnings base upon which premiums are levied, requiring a higher premium rate that falls heaviest on low-wage workers. And EI premiums are now collected on the first hour of employment. Overall, more of the EI premium burden has shifted from middle- and upper-income earners to lower-wage earners and those in unstable jobs.

Changing Division of Labour in Social Policy

Several of the changes discussed in this paper have affected the division of labour and the federal-provincial balance in social policy. But the widespread notion that Ottawa is passing the buck to the provinces in an era of devolution and rising provincial power is another case of "conventional wisdom" being simplistic if not more wrong than right.

Rumours of the demise of Ottawa's role in social policy are greatly exaggerated. Yes, the federal government slashed its social transfers to the provinces during the anti-deficit campaign, and the cash/tax point transfer formula means that federal cash payments will continue to decline in future — but Ottawa since has begun to partially restore past losses by putting billions back into the Canada Health and Social Transfer (mainly for health, with a bit for early childhood development). Yes, replacing the Canada Assistance Plan with the CHST effectively withdrew federal funding for provincial welfare and social services (since the CHST for all effective purposes is a CHT), but the NCB is levering some federal financing for provincial social spending. Yes, the demise of the CAP has cut all but one federal string on provincial welfare programming (the requirements for appeal systems, a safety net available to all persons in need and certain basic program information to the federal government are gone, with only the portability requirement remaining), but the allegation of social advocates that the CHST has put an end to "national standards" in provincial social programs and medicare is based on the nostalgic myth that Ottawa enforced national "standards" before the CHST: it did not, because the conditions of the CAP and the Canada Health Act never had the status of standards (Torjman and Battle 1995). Yes, Ottawa has largely pulled out of social housing, but it appears to be reassessing this decision in the face of pressure to help deal with the national problem of lack of affordable housing. The one devolutionary act that the federal government appears not to have regretted or had second thoughts about is the devolution of most labour market programs to the provinces.

The NCB has increased the federal role in child benefits and diminished that of the provinces, enabling them to spend more on family services under the reinvestment agreement. Ottawa's expenditures on income security will continue to expand significantly well into this century by virtue of the combination of an aging population (soon to become swollen by the baby boomer generation) and fully indexed public pensions (elderly benefits and the CPP). The restoration of full indexation of the federal tax/transfer system, contrasted to the non-indexation of provincial income security programs, also is serving to help shift the federal-provincial balance in income security policy. Another factor in the changing balance is that the provinces are spending more on rising health costs — exacerbated by diminishing federal cash transfer payments — and less on social assistance. Thus what I see as a sensible division of labour — a dominant (though probably never exclusive) federal role in income security and provincial role in health and social services — is making some progress.

The NCB holds out the promise of more than just a restructuring and enhancement of child benefits. By removing a large group (children) from social assistance caseloads, it marks a major step forward in the essential task of dismantling the welfare system and replacing it with more effective programs. The aim should be to transform adult social assistance from its current conception as a last-resort income support program. It should be modernized in the form of a public wage for adults, more suitable to an "active" income security system, combined with a decent income support system for people unable to work for pay.

The next big steps in this evolution should be a fundamental restructuring of income support for non-elderly adults, with a larger federal presence (through a combination of financing and delivery) to replace most of provincial social assistance and relegate welfare to the truly residual role it originally was intended to serve (Battle, Torjman and Mendelson 2000; Torjman 1998).

The Contentious Issue of Disincentives: Of Welfare Walls and Marginal Tax Rage

The NCB's chief rationale is to lower that part of the "welfare wall" unwittingly caused by a discriminatory system of child benefits. One of the disincentives to moving from welfare to the workforce is the fact that parents have to forfeit thousands of dollars in cash benefits (social assistance benefits on behalf of children) as well as in-kind benefits (e.g., supplementary health care from welfare) at the very time that they are trying to establish themselves in employment (typically low-paid), which brings substantial costs of its own in the form of income and payroll taxes and work-related expenses. Clearly there is more to the welfare wall than differential child benefits: other barriers include lack of affordable housing and quality child care, not to forget lack of jobs that pay a living wage. Nonetheless, the old two-tiered system of child benefits formed a significant part of the welfare wall, and the NCB is attempting a structural remedy to this problem. Moreover, the largest expenditure of provincial reinvestments under the NCB is on child care.

While the right appears to buy into the welfare wall argument, which is to be expected given its longstanding concern to root out social program-caused disincentives to work, some economists just cannot stop themselves from tilting at the windmill of the NCB's alleged labour market disincentive caused by its impact on marginal tax rates (Poschmann 1999; Sayeed 1999). They argue that the NCB reform could be defeating its own purpose by imposing high effective marginal tax rates. These supposedly discourage the work ethic of the very families it is intended to help. (By "effective marginal tax rate" we mean the percentage of additional income paid in income and payroll taxes or forgone due to the reduction rates of income-tested programs.)

The Canada Child Tax Benefit *has* resulted in higher marginal tax rates for some working poor families because of the wish to target limited new spending on low-income families. (Families in the $21,000-$30,000 net family income range have been affected.) For example, an Ontario family with net income of $27,000 saw its effective marginal tax rate rise from 39.5 to 54.2 percent as a result of the high reduction rate imposed on the National Child Benefit Supplement. At the same time, recipients of social assistance who moved into the labour market enjoyed a large reduction in their marginal tax rates.

The impact of this mix of higher and lower effective marginal tax rates on labour market behaviour remains an open question. The factors that can influence families' decisions regarding paid work are complex (Battle and Mendelson 1997). These decisions cannot simply be taken as given according to the usual simplistic assumptions of traditional economic theory. Issues such as social expectations, opportunities, transportation, child care, workplace policies and many other factors fit into the equation. It is not clear, nor does economic theory suggest, that the effective marginal tax rate is the most important of these variables.

The NCB has objectives beyond the labour market, unlike "pure" income supplements for the working poor. The new child benefit's impact on the depth of poverty and disposable income is equally — indeed, more — important than its effect on labour market behaviour.

The Expanding Role of the Income Tax System in Social Policy

The important role of the income tax system has cropped up repeatedly in this essay on major changes to income security policy. Income security and the tax system have become very much intertwined, as evidenced by analysts' common use of the term "tax/transfer system." A brief review of the positive and negative impact of this major social policy development is merited.

Partial de-indexation of the personal income tax system eroded the after-tax value of income benefits that are taxable (e.g., OAS, Family Allowances, EI and CPP retirement, disability, survivor and death benefits). Partial de-indexation of the rates of refundable credits and income thresholds, including the GST credit and CTB, both corroded benefits and reduced their coverage. Also, the slow drip of de-indexation corroded the value of the numerous other social benefits delivered through the income tax system in the form of non-refundable tax credits — for example, the age credit, spousal and spousal equivalent credits, disability credit, tuition and education credits and pension income credit. Another, perhaps more conventional, way of expressing the same thing is that partial de-indexation of non-refundable credits contributed (along with partial de-indexation of tax thresholds) to federal and provincial income tax increases that offset improvements to a few social programs and exacerbated cuts to others.

On a positive front, Canada's trend to tax-delivered income-tested programs is one of its major social policy accomplishments. The personal income tax system is an efficient and inclusiveness-enhancing vehicle for delivering important income-tested programs such as federal and provincial child benefits and refundable tax credits. In sharp contrast to needs-tested social assistance, tax-delivered benefits are seen to be objective, administratively simple, fair and non-stigmatizing. Eligibility can be established easily through the income tax form; there are no decisions made on the basis of a detailed assessment of personal circumstances; there is little or no contact between recipients and government officials; unlike needs-tested welfare, there is no risk of unfair treatment resulting from administrative discretion. Once eligibility is established, payments can be triggered automatically by computer. Enhancements to the federal CCTB and refundable GST credit are a substantive way of achieving the national standards so beloved of universalists: benefits are delivered on a consistent and reliable basis throughout the country and have a built-in equalization effect.

Accountability

Making public expenditures more "accountable" is another strong theme in current Canadian policy-making in such areas as child benefits, health care and early childhood development. Methods include regular public reporting, emphasis on measuring "outcomes" and not just inputs, documentation and dissemination of "best practices," and the renewed use of social experimentation exemplified by the promising self-sufficiency projects under way in New Brunswick and British Columbia. New public spending is now labelled "investment" rather than expenditure, implying that such outlays eventually will reap "profits" (e.g., in terms of increased productivity of the workforce and resulting lower reliance on income support and increasing tax revenue) and thus are cost effective.

The enthusiasm for evidence-based reform stems not only from a (somewhat simplistic and naive, in my view) faith in the capacity of research and evaluation to tell us what works and what does not, and for the latter to furnish a sufficient basis for effective policy, but also in the blunt reality that public accountability is one of the few levers left to Ottawa vis-à-vis the provinces in the brave new world of the Social Union Framework Agreement and partnership federalism. A prime case in point is the recent early childhood development agreement, which transfers federal funds to the provinces with virtually no federal say over how the money is spent except that it is supposed to go to any, some or all of four areas broadly defined: healthy pregnancy, birth and infancy; parenting and family supports; early childhood development, learning and care; and community supports for families with children. The provinces are free to decide what to do in any or all of these four areas, though their investments should be "incremental" (i.e., not use new federal funds to pay for what they would have done or are doing on their own).

The agreement (whose brevity is telling) stresses the need for public reporting on expenditures and activities for purposes of accountability, policy evaluation and development (including annual reporting, developing a shared national framework including comparable program and outcome indicators, and sharing research and information on best practices). However, such information, though useful to both levels of government and to non-governmental players, will not constitute part of any conditional assessment of whether the provinces should continue to receive federal funding: the days of conditional federalism are all but gone (the notable exception being federal enforcement of the conditions attached to the Canada Health Act, though the federal teeth are not particularly sharp and bite but rarely). Ottawa has neither the will nor the guile to restore conditionality of its social transfers by means of stealth. So too do the provinces have carte blanche on how they reinvest their welfare savings under the NCB, so long as it helps low-income families with children. Social groups as well as governments can use such data and information to monitor and assess the development of the NCB.

The Politics of Social Policy Reform: Relentless Incrementalism

The numerous changes proposed or put in place by the federal and provincial governments have sparked ample criticisms, mainly from social advocacy groups, well-publicized by a media generally keen to criticize government and (with a few exceptions) blissfully ignorant of the substance of social policy. Yet governments generally have had an easy ride on the road to reform, stumbling only a couple of times. The only noteworthy social policy pratfalls that come to my mind are the Conservatives' botched attempt at partially de-indexing OAS benefits (in which the diminutive, near-senior famous-for-15 minutes Solange Denis played a key part, much to the discomfort of Prime Minister "Charlie Brown" Mulroney) and the Liberals' retreat on its proposal for a Seniors Benefit (when the Liberals trotted out a now-supportive Madame Denis for another 10 minutes of fame, though to no avail).

There are doubtless a variety of factors at play in the politics of social policy reform, but I will mention four here — the anti-deficit campaign, the popular appeal of a post-welfare state model of social policy, governments' use of strategies of what I have dubbed "policy change by stealth" and "relentless incrementalism" and the advantage of majority governments with weak oppositions.

The Conservatives faltered briefly at the start of their first term with the proposal to partially de-index OAS, but they went on to make a variety of changes to social programs that cut costs and changes to the tax system that increased revenues. The Liberals carried on the Tories' program of reform on both the expenditure and revenue sides of the ledger and finally made real progress against the deficit. Whether they accepted the need to restrain spending and pay more taxes in a grudging or enthusiastic manner, the Canadian electorate generally came to accept the need for tough medicine to fight the deficit and accumulating debt. Without the success of the anti-deficit campaign, governments never would have embarked on what became such ambitious and far-reaching reforms to social policy.

I also think that social advocates' faith in the power of the "sacred trust" of the universalist welfare state to withstand change proved to be naive. While the politics of stealth doubtless served to mute public criticism, as argued below, I would argue that substantial numbers of Canadians are receptive to criticisms of the weaknesses (e.g., with respect to irrational distribution of benefits, disincentives and sustainability) of major social programs and supportive of some of the changes so vociferously opposed by the critics and put forward in what I call the "post-welfare state" model of social security. Universality of child and elderly benefits died not with a bang but a whimper: it is revealing that most people polled in 1990 (when OAS and Family Allowances were in the process of being income-tested, though Ottawa pretended otherwise) supported a for-the-poor-only child benefit and that public support for universal old age pensions (though stronger than for universal child benefits) was weakest among the elderly. The Tories proved that the universalist welfare state was no longer sacred, if in fact it ever had been. As noted earlier, polling during the Liberals' Social Security Review found that most Canadians believe that social programs require substantial change. Indeed, the conservative critique of welfare and UI always has echoed loudly in popular distaste for "pogey" and "the dole." Witness the Ontario Conservative government's politically successful demonization of welfare in the election campaign that brought it to power and its immediate slashing of welfare rates to show it meant business.

I and others have argued repeatedly since my 1990 essay *Social Policy by Stealth* that governments' success in imposing many of their changes stemmed from the use of arcane technical amendments (partial deindexation being the chief example) that are poorly understood by the public and critics (Battle 1990; Prince 1999). Major changes to important social programs, such as the removal of universal old age pensions and family allowances, the massive cuts in social transfer payments to the provinces and the transformation of child benefits, were implemented by stealth with no advance notice and little effective public debate. So also did the federal finance department harness the power of inflation to impose hidden annual income tax hikes from 1986 through 1999. The Liberals left intact the Tories' machinery of stealth and used it to their fiscal advantage — restoring full indexation in 2000 only when the deficit was wrestled to the ground. But stealth still operates in certain aspects of social policy — for example, non-indexation of provincial welfare and other income security rates, the decline in federal cash transfer payments, freezing the Year's Basic Exemption in the CPP and EI's maximum insurable earnings level.

Policy change by stealth is a successful example of a style of reform that I have dubbed "relentless incrementalism." Relentless incrementalism consists of strings of reforms, seemingly small and discrete when made, that accumulate to become more than the sum of their parts. Relentless incrementalism is purposeful and patterned, not haphazard and unintended. The drip drip drip of individual changes over time carve substantial and planned shifts in the structure and objectives of public policy.

Relentless incrementalism can be benign or malignant, depending on the view of the beholder. Partial de-indexation of the personal income tax system and federal child benefits had an overall regressive impact and was undemocratic — perhaps a more apt term in this application is relentless decrementalism — but did serve the "higher purpose" of helping quell the deficit by increasing income tax revenue and reducing child benefits expenditures. The 60-year history of U/EI is one of expansion and then contraction, mostly through incremental changes to a scheme as complex and impenetrable as welfare. One's opinion of the merit of these changes depends upon whether one buys into the conservative critique of UI being part of the problem rather than part of the solution. Elderly benefits were fundamentally changed through a series of seemingly small steps, though the logical leap — to an integrated, family income-tested Seniors Benefit — did not succeed, perhaps because for once Ottawa did rely upon its well-proven strategy of incrementalism, but instead painted the proposal as a radical architectural shift and sold it as an entirely new program: might the same result have been achieved through stealth (i.e., by family income-testing OAS and the age and pension income credits)? The answer is yes in the design sense (the Seniors Benefit essentially mimicked the current layering of the GIS on top of OAS), but no in the political sense because I doubt that a back-door approach would have muted the attacks from the right and the left; to the contrary, they could have cried "stealth."

Relentless incrementalism remains the dominant mode of reform, in part because of the failure of past efforts at big-bang reforms. Tax benefits for persons with disabilities are being quietly improved through small changes that have gone largely unnoticed. In sharp contrast to the federal restoration of indexation of the personal income tax system and CCTB, the provincial and territorial governments continue to shave spending on welfare and even their new income-tested child benefits and earnings supplements through the mechanism of non-indexation.

Of course, at times there are larger leaps — for example, the addition of entirely new programs during the expansion phase of the welfare state, the NCB's complementary increase in federal child benefits and displacement and reallocation of provincial welfare spending on children, the shift from pay-go to partial funding of the CPP — that mark a more fundamental change in structure that many observers would not characterize as incremental — though, again, the judgement as to what is incremental and what is more radical is always open to debate. Still, at least in the current reformation stage of the Canadian welfare state, I think that even such deeper, structural changes are for the most part being implemented through a sort of "politics of incrementalism" that typically introduces changes amongst a raft of other measures in annual budgets and eschews the "grand new design" spin that has backfired in the past (e.g., the Seniors Benefit).

Finally, one also must remember a more mundane but powerful advantage the Mulroney government had going for it: an electoral majority, which meant it did not need to compromise on its social policy changes. The Chrétien government has had it even better, with the decimation of the federal Conservatives and the lack of an effective opposition. The only real opposition to the ruling Liberals has come from their own caucus, some members of which are uncomfortable with the party's perceived shift to the right: the retreat on the Seniors Benefit — announced in the midsummer doldrums — had much to do with the Finance Minister's case of cold feet when members of the women's caucus (inspired by hysterical criticism from women's groups) dumped ice water on the proposed reform.

Civil Society and Social Policy Reform

Not surprisingly, recent and ongoing changes to Canada's social security system have proved to be controversial. Social advocates generally have been highly critical of most of the changes, arguing that they have imposed hardship on lower-income Canadians who bore an unfair burden of the war against the deficit and have failed to share equally in the new-found bounty of the surplus. The much ballyhooed (and much misconstrued) assault on universality is seen as undermining the broad societal consensus required to maintain support for the welfare state overall, including programs targeted to the poor. The federal Liberal government's "mixed" strategy of allocating the "fiscal dividend" of the surplus among tax cuts, debt repayment and social spending has been criticized from the left for in effect fiddling while Rome burns — for bestowing broad-based income tax cuts that include the wealthy while failing to spend enough on persistent, debilitating problems like poverty, homelessness and chronic unemployment.

Policy changes reducing entitlement to EI, the CPP disability benefit and workers' compensation have been criticized, and not just from the perspective of potential beneficiaries who receive lower entitlements or nothing at all. The changes also break the traditional link between premiums and entitlement, weakening the "social contract" that maintains public support of social insurances. Public confidence in EI has been shaken by the fact that just over one third of unemployed workers in Canada currently receive benefits under the program. Critics contend that workers — especially those in provinces west of Quebec, which have a low rate of EI coverage — are not getting what they are paying for: they pay into the program when they are working, but most get nothing in return when they become unemployed. And while the financing changes to the CPP will secure the future of this vital social insurance program, these reforms are not widely understood and many Canadians — especially the young — continue to fear that the program "will not be there" for them when they retire.

The reform of child benefits has proven particularly contentious. The anger of welfare advocates at the NCB for not delivering net improvements in child benefits for welfare families is understandable in the light of years of overt and/or covert cuts to social assistance benefits on the part of the provinces and their distrust of governments bearing "reforms" that are simply code for cuts. But I lament the refusal of social groups to address, let alone debate, the policy case for the restructuring of child benefits and its potential extension to badly needed reform of income and service support for non-elderly Canadians (welfare, UI and employment programs) generally. Critics from the right also have taken a narrow view of child benefit reform in their obsession with the bogeyman of marginal tax rates.

However, despite vocal and energetic criticism from the non-governmental sector, almost none of these social policy changes have been successfully opposed. The prominent exception is the failed effort at the Seniors Benefit, which provoked a firestorm of criticism from left and right that got to the Liberal caucus and thus contributed to the Finance Minister's decision to withdraw his proposal as not worth the risk to his government and to his own political future. Most of the arguments against the Seniors Benefit had little substantive merit and some were downright lies, such as the contention that the proposal would turn the old age pension into a welfare program and would reduce benefits for poor women. But perception (more to the point, deception) is what so often counts in politics — especially when it comes to public pensions and government's fear of grey power. The fiscal calculus also played a role in the Seniors Benefit's political demise: the original proposal would have produced virtually no immediate savings and only modest downstream economies (20 years off, a couple of eternities in political time), and the amended design being worked on just before Ottawa pulled the plug (with its lower reduction rate and larger benefit increase for the poor) would have had even less fiscal payoff.

CONCLUSION

Economic factors always have played a defining role in Canada's social security system, and are more powerful than ever as the universalist welfare state gives way to a post-welfare state. The slowdown of economic growth and rise of inflation in the mid-1970s brought the window down on the massive post-war expansion of social programs. Deepening deficits in the 1980s and 1990s spurred governments — especially Ottawa — to impose gradual but cumulatively major and in some cases radical changes on virtually all areas of Canadian social policy through the politics of "relentless incrementalism." Social and demographic forces are placing heavy cost and performance demands on social programs, and the changing nature of federalism both affects and reflects the transformation of our social security system.

Despite opposition from social advocacy groups, the emerging post-welfare state model and the structural reforms it calls for will better serve Canada's evolving economy, society and polity than nostalgia for a universalist welfare state that never worked all that well.

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The Outcomes: Canada's Economic, Social and Environmental Record

Trends in Economic Well-Being in Canada in the 1990s

Lars Osberg and Andrew Sharpe

Are we better off? In modern democracies, national systems of social and economic statistics have become a crucial part of the informational feedback loop of public policy. By providing measures of social and economic outcomes, statistical agencies provide decision-makers and voters with information that often defines the success or failure of public policies. Evidence of such successes or failures can be used to reallocate resources or to motivate the voting decisions that replace governments; hence the calculation of measures of economic well-being is an important issue. However, current measures — such as trends in per capita disposable income — may not necessarily be a guide to popular perceptions of trends in economic well-being.

Economics is only part of life, but it is more than the market. Since some scarce resources are produced and consumed in non-market contexts, the concept of economic well-being is much broader than that of GDP or monetary income. However, economic well-being is less inclusive that the concept of quality of life or social progress, although it certainly is part of these latter variables. Over the past several years, the Centre for the Study of Living Standards has developed an Index of Economic Well-Being (IEWB) and constructed estimates for Canada and the provinces, the United States, and selected OECD countries.[1]

The objective of this paper is to examine trends in this Index and its components in the 1990s in Canada and relate these developments to overall economic performance. While the motivation behind the development of the Index and its basic components will be outlined in this article, readers are referred to our earlier work (especially Osberg and Sharpe 1998) for detailed discussion of the methodology used to construct the Index. The article is divided into four main parts. The first part provides the motivation behind the Index. The second part discusses very briefly the basic components of the Index. The third part examines trends in the various components of the Index in Canada in the 1990s. The fourth and final part relates these trends to economic performance in the 1990s.

MOTIVATION BEHIND THE INDEX OF ECONOMIC WELL-BEING

The IEWB originated in a research paper one of us wrote for the MacDonald Commission in the mid-1980s (Osberg 1985). This paper was motivated by the belief that commonly used indicators of economic welfare, such as GDP per capita, were not truly capturing trends in economic well-being.

The core problem of statistical agencies is that of deciding what information to record and how to present it. Knowing that all statistics summarize a complex reality, and that there are wide variations among the public in which aspects of social reality are considered to be of greatest importance, statistical agencies still have to decide what to count, and what not to count, as part of a measure of economic well-being.

For many years, the System of National Accounts (SNA) has been the accounting framework within which most discussions of trends in economic well-being are conducted, and Gross Domestic Product (GDP) per capita has been the most frequently used summary measure of economic trends. The compilers of the national accounts have often protested that their attempt to measure the aggregate value of marketed economic output was never intended as a full measure of economic well-being. Nevertheless, it has frequently been used as such, and the GDP accounting exercise has attracted a great deal of criticism as a misleading indicator of economic well-being. Dissatisfaction with the GDP as a measure has led to a number of proposals for substitute measures (e.g., the Genuine Progress Indicator).

Summarizing the economic well-being of a complex society inevitably requires a series of ethical and statistical judgements. There are many different dimensions to well-being, which are valued to different degrees by different observers. With a single index number it may be difficult to disentangle the relative importance of value judgements in the construction of the index. Furthermore, in thinking about the appropriate public policy response, it is not particularly useful to know that well-being has gone "up" or "down" without also knowing which aspect of well-being has improved or deteriorated.

In our view, the construction of measures of economic well-being is a problem in the optimal aggregation of information. If the objective is to improve the quality of public decision-making and political debate, excess aggregation is not helpful because it does not enable the separation of value judgements and statistical judgements. Furthermore, excess aggregation offers no guide to policy priorities.

In 1985 Osberg proposed an index of economic well-being based on indices of consumption, accumulation, inequality and insecurity, *with the explicit recognition that the weights attached to each component will vary, depending on the values of different observers.*[2] The underlying hypothesis is that public debate is likely to be enhanced if issues of fact, analysis and values are as clearly separated as possible. Measurement of the current level, or trend, of economic well-being can be seen as the first stage of a three-stage discussion in which a society asks: (1) Where are we? (2) Do we want to go somewhere else? (3) How do we get there?

Issues of measurement, values and analysis may be conceptually distinct, but in a single index of economic well-being they often become hopelessly entangled. If the democratic debate on economic policy is to be fruitful, it would seem desirable to separate issues of measurement (question 1) from the debate on ends (2) and the discussion of means (3).

If the discussion is organized in this way, those people who fundamentally care most about a particular aspect of well-being can discuss the facts about that aspect without confusing the discussion with simultaneous discussion of other issues. (For example, those who are concerned most with the bequest of this generation to future ones can discuss whether the best way to safeguard sustainability is to emphasise environmental regulation, or capital accumulation, without simultaneously considering distributional issues.) Such discussions of measurement issues are of a fundamentally different nature from discussions of *values* (which aspect of economic well-being *should* receive greatest weight) or *policies* (how society *can* achieve given objectives).

This basic framework — that a society's well-being depends on societal consumption and accumulation and on the individual inequality and insecurity that surround the distribution of macroeconomic aggregates — is consistent with a variety of theoretical perspectives. We therefore avoid relying on a specific, formal model.

BASIS COMPONENTS OF THE INDEX OF ECONOMIC WELL-BEING

Gross Domestic Product is a measure of the aggregate marketed income of a society. However, "income" is a flow variable that does not directly consider the aggregate value of the bequest of this generation to its descendants. Although those living today clearly care about the level of their own consumption, they also care (in varying degrees) about the well-being of future generations. Furthermore, trends in average income do not reveal an individual's chances of personally sharing in the prosperity of the average. People are justifiably concerned about where they might sit in the distribution of income and the degree to which their personal economic future is secure.

Therefore, the four components or dimensions of economic well-being are:

- effective per capita consumption flows, including consumption of marketed goods and services, and effective flows of household production, leisure and other unmarketed goods and services;
- net societal accumulation of stocks of productive resources, including net accumulation of tangible capital, housing stocks, net changes in the value of natural resources stocks, environmental costs, net change in level of foreign indebtedness, and accumulation of human capital and R&D investment;
- income distribution, including the intensity of poverty (incidence and depth) and the inequality of overall income;
- economic insecurity, including economic security from job loss and unemployment, illness, family breakup and poverty in old age.

There are two conceptually distinct stages to considering these components of well-being. The first issue is whether it is useful to consider these four underlying

TABLE 1

Summary of Trends in the Components of the Index of Economic Well-Being in Canada (average annual rate of change)

	Consumption	Wealth	Equality	Security	Overall Index (equal weighting)	GDP Per Capita
1971-81	1.91	2.06	0.09	0.63	0.65	2.69
1981-89	1.09	0.25	1.24	1.14	1.00	1.89
1989-99	0.85	1.04	-0.67	-3.03	-0.14	1.13
1989-95	0.42	0.40	-1.03	-4.72	-0.88	0.25
1995-99	1.50	2.01	-0.14	-0.44	0.96	2.45

Source: CSLS.

components of economic well-being separately. The second issue is how much weight to put on one component relative to another. The first issue is an analytic one, whereas the second depends primarily on personal values. We distinguish these four main dimensions of economic well-being to enable persons with differing value judgements (e.g., a greater or lesser preference for intergenerational bequest or for the reduction of poverty, compared to increases in consumption) to account explicitly for those values. Each dimension of economic well-being is itself an aggregation of many underlying trends.

In our discussion in this article, we start with an equal weighting of all four components of the Index. Earlier versions of the Index started from a different weighting — consumption was more heavily weighted (0.4) and stocks of wealth was underweighted (0.1), while equality and security were equally weighted (0.25). The two sets of weights paint a very similar picture of trends, but in general a key issue in the construction of the IEWB is the weighting of the four components. Trends in the aggregate Index can be sensitive to the weights given the four components — particularly the weights assigned to equality and security.

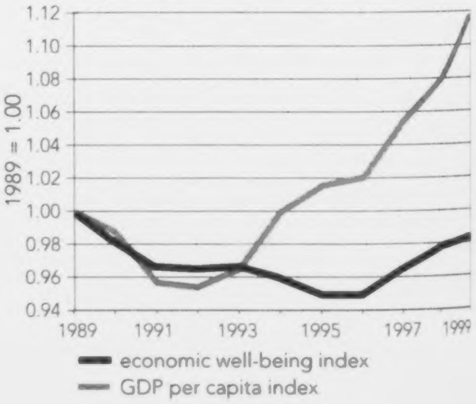
TRENDS IN THE INDEX OF ECONOMIC WELL-BEING IN CANADA IN THE 1990s

Trends in the Overall Index

In contrast to upward advances in the IEWB in the 1970s (0.7 percent per year) and in the 1980s (1.0 percent), the Index declined in the 1990s (Table 1). It fell 0.2 percent per year from the 1989 cyclical peak to 1999, the most recent year for which the Index has been estimated.[3] It also performed much more poorly than real GDP per capita, which rose at a 1.1 percent rate over the decade (Chart 1).

CHART 1

Trends in the Index of Economic Well-Being and GDP Per Capita in Canada



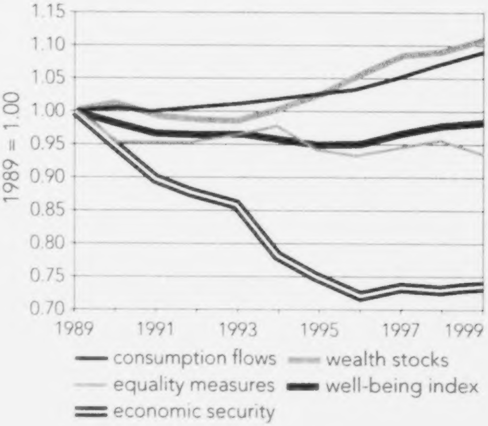
The 1990s decline in the Index took place during the first half of the decade, with the Index regaining some lost ground in the second half. In the six-year period between 1989 and 1995, the Index fell at a 0.9 percent average annual rate (a cumulative decline of 5.4 percent), while in the four-year period from 1995 to 1999 it advanced 0.9 percent per year (a cumulative recovery of 3.6 percent). The 1990s were a period of divergent trends in the first and second halves of the decade.

In the 1990s the decline in the IEWB was greater than the fall-off in real GDP per capita, the most commonly used measure of living standards. The 1.3 percentage point drop in the Index between 1981-89 and 1989-99 compares with a mere 0.9 point decline in real per capita GDP growth. Thus trends in GDP growth underestimate the decline in economic well-being in Canada in the 1990s.

The decline in economic well-being in the 1990s was broadly based, according to the IEWB. Indeed, three of the four components of the Index (consumption, equality and economic security) performed more poorly in the 1990s than in the 1980s and the Index for the latter two of these components declined in absolute terms (Chart 2).

CHART 2

Trends in the Index of Economic Well-Being Index and its Components in Canada



Trends in Consumption Flows

The concept of total consumption used in the IEWB is much broader than the concept of personal consumption found in the System of National Accounts. The SNA does not include any adjustments to personal consumption for changes in life expectancy, for the change in household economies of scale associated with changes in household size, for trends in certain regrettable expenditures (cost of commuting, auto accidents, crime, household pollution abatement) and the addition of current government spending on goods and services, for changes in the value of unpaid work (both volunteer work outside the home and the quantitatively important work in the home), or for the value of changes in working time. The IEWB makes adjustments for all these issues.

Total consumption, based on the definition used in the IEWB, advanced at 0.9 percent per year in the 1990s (Table 2), down only 0.2 points from the 1980s, at 1.1 percent, and 1.0 points from the 1970s. In contrast, the national accounts definition of personal consumption grew at only a slightly faster rate in the 1990s (1.1 percent), but the slowdown from the rate of increase experienced in the 1980s (2.0 percent) was much greater (0.9 points).

In the 1990s, the IEWB adjusted personal consumption upward because of increased life expectancy, but adjusted it downward because of declining household size and the regrettables mentioned above. This adjusted personal consumption advanced at an annual rate of only 0.6 percent over the decade.

TABLE 2
Trends in Total Consumption and Its Components
(average annual rate of change on a per capita basis)

	Personal Consumption	Adjusted Personal Consumption	Government Consumption	Unpaid Work	Total Consumption
1971-81	2.76	2.62	2.16	0.75	1.93
1981-89	2.03	1.94	1.29	0.04	1.09
1989-99	1.06	0.55	-0.52	2.24	0.85
1989-95	0.22	-0.38	-0.28	1.86	0.42
1995-99	2.34	1.96	-0.87	2.85	1.50

Source: CSLS.

The large cuts in government spending in the 1990s were felt in government expenditures on current goods and services, which fell 0.5 percent per year compared to an increase of 1.3 percent in the 1980s. There was little change in average working time in the 1990s, so the imputation for this variable had little effect on consumption. A perhaps surprising development in the 1990s was rapid growth in unpaid work. After experiencing virtually no change in the 1980s, the value of unpaid work advanced at a 2.2 percent annual rate in the 1990s.

The weakness of total consumption growth was much more pronounced in the 1989-95 period than in the 1995-99 period (0.3 versus 1.5 percent). The value of both personal consumption and unpaid work advanced at a slower rate in the earlier period. In contrast, government consumption actually declined at a faster pace in the second half of the 1990s.

Trends in Accumulation of Stocks of Wealth

The IEWB attempts to measure the change in stocks of real productive assets in Canada. The non-financial wealth of society is made up of the residential and non-residential physical capital stock, the stock of R&D knowledge, the stock of natural resources and the human capital of the population. Canada's net international debt represents a liability to foreigners, so it reduces our national wealth. All these variables are measured in terms of constant dollars so they can be aggregated. In constructing the IEWB, we have either used Statistics Canada data or developed our own estimates for all these stocks (see Osberg and Sharpe 2000 for details).

In 1999, the per capita value, expressed in 1992 dollars, of the total wealth of Canadians was $127,863. The most important component of this wealth was human capital, representing 58.9 percent of the total. This was followed by physical capital (35.4 percent), natural resources (11.6 percent) and R&D (1.5 percent). International debt reduced wealth by 7.5 percent. The key asset of the Canadian economy lies in the skills of the workforce, not in our factories and natural resources.

Unlike total consumption flows, the growth rate of total wealth stocks (Table 3) actually picked up in the 1990s (1.0 percent per year), surpassing the pace experienced in the 1980s (0.3 percent). This development

TABLE 3
Stocks of Wealth
(average annual rate on change in real per capita terms)

	Physical Capital	R&D	Natural Resources	Human Capital	Inter'l Debt	Total
1971-81	3.08	3.39	4.04	1.09	4.14	2.06
1981-89	1.80	4.29	-5.35	1.04	1.09	0.25
1989-99	0.90	2.54	-0.05	1.17	-0.08	1.04
1989-96	0.75	2.62	-3.22	1.20	2.78	0.40
1995-99	1.13	2.42	4.90	1.12	-4.23	2.00

Source: CSLS.

was due to three factors. There was a small pick-up in the pace of human capital accumulation (1.2 versus 1.0 percent). Since the value of natural resource stocks depends on both the size of reserves and any changes in their prices, the big difference between the 1980s and 1990s was that the fall in the value of energy resources over the 1980s did not continue. Hence the decline in the value of natural resources (-0.1 versus -5.4 percent) was much smaller. As well, there was a small decline in net international debt compared to an increase in the 1980s (-0.1 versus 1.1 percent). In contrast, the growth rates of both physical capital and R&D stocks fell off in the 1990s relative to the 1980s (0.9 versus 1.8 percent for the former and 2.5 versus 4.3 percent for the latter), reflecting the slower pace of investment over the decade associated with the weaker economic growth.

Total wealth stocks grew at a much more rapid pace in the second half of the 1990s than in the first half: 2.0 versus 0.4 percent. This development reflects the significant decline in international debt, the pick-up in investment in physical capital and the rapid growth in the value of natural resources due to higher prices for certain commodities such as oil.

Trends in Equality

The income inequality component of the IEWB includes two measures of inequality for the overall population. The first is poverty intensity, where poverty is defined in a relative sense as the proportion of households with less than one half median equivalent income. This variable sheds light on trends at the lower end of the income distribution. The second is the after-tax Gini coefficient, a well-known measure of income distribution which captures trends in the overall distribution of income. The first variable is given four times the weight of the second variable.

Both the intensity of poverty and the Gini coefficient increased in the 1990s, indicating a decline in equality (Table 4). Poverty intensity increased 1.7 percent per year between 1989 and 1999 due to an increase in both the poverty rate and the poverty gap. The Gini coefficient rose 0.4 percent per year. In the 1980s, poverty intensity declined while the Gini coefficient remained basically unchanged.

The increase in the intensity of poverty in the 1990s took place throughout the decade, with an initial decline in the first half of the decade during the period of weak economic

TABLE 4
Trends in Equality for the Overall Population (average annual rate of change)

	Poverty Intensity	Income Inequality (Gini coefficient)	Equality Index
1971-81	0.0	-0.61	0.09
1981-89	-1.7	0.04	1.24
1989-99	1.7	0.39	-0.67
1989-95	1.6	0.24	-1.03
1995-99	1.7	0.62	-0.14

Source: CSLS.

growth, and further change after 1995 as social assistance payments were cut back. Recessions and periods of slow growth tend to disproportionately affect persons at the bottom of the income distribution. In contract to poverty intensity, overall income inequality, as captured by the Gini coefficient, increased more in the second half of the 1990s than in the first half (0.6 versus 0.2 percent per year).

Trends in Economic Security

The economic security component of the IEWB consists of four sub-components: the risk of unemployment, the risk of financial insecurity due to illness, the risk of single-parent poverty and the risk of poverty in old age.[4] Each risk is weighted by the extent of the population affected into the overall economic security component.

As noted earlier, it was the economic security component of the IEWB that posted the largest decline in the 1990s among the four components of economic well-being (-3.0 percent per year). Table 5 reveals that it was the risks of unemployment and financial insecurity due to illness that were responsible for this large decline in economic security. Both the risk of single-parent poverty and the risk of poverty in old age declined in the 1990s.

The index for the risk to economic security from unemployment plummeted 6.9 percent per year in the 1990s, after a 4.5 percent increase in the 1980s. This index comprises three variables, the employment/population ratio, the Unemployment Insurance (UI) or Employment Insurance (EI) coverage rate — that is, the proportion of the unemployed who are receiving regular benefits — and the benefits rates — that is, average weekly benefits as a proportion of average weekly earnings. The variables are given equal weights and combined in a multiplicative manner. The decline of the index in the 1990s was largely driven by the decline in EI coverage, from 84 percent of the unemployed in 1989 to 43 percent in 1999. The benefits rate was relatively stable, in the 42-44 percent range, while the employment/population ratio rate was still somewhat below the 1989 peak by 1999.

The risk to financial security from illness is proxied in the IEWB by the proportion of disposable income devoted to medical expenses. An increase in this proportion is considered an indication of a decline in financial security. The ratio in fact rose from 3.30 percent of disposable personal income in 1989 to 4.42 percent in 1999, in part because of the delisting of certain medical services by provincial governments and large increases in the price of drugs, for which many Canadians are not fully insured. The rate of growth of this variable from the point of view of financial security was thus -3.0 percent per year in the 1990s, compared to -2.7 percent in the 1980s. The lion's share of the decline took place in the first half of the decade.

ABLE 5
rends in Economic Security
verage annual rate of change in unweighted sub-index)

	Unemployment	Illness	Single-Parent Poverty	Elderly Poverty	Overall Index
1971-81	2.57	-0.42	-7.48	0.23	0.63
1981-89	4.45	-2.73	-0.70	10.11	1.14
1989-99	-6.94	-2.96	5.21	10.20	-3.03
1989-95	-8.14	-4.12	5.00	16.13	-4.72
1995-99	-5.11	-1.25	5.52	0.52	-0.44

ource: CSLS.

In contrast to the declines in economic ecurity in the areas of unemployment and illness, the risk to economic security from single-parent poverty and poverty in old age ctually declined in the 1990s. The variables ncluded in the index of risk for single-parent overty are the divorce rate, the poverty rate or single-parent families, defined in relative erms as households with less than one half median equivalent income, and the poverty gap for single-parent families. These latter two variables combined represent poverty intensity. The variables are given equal weights and combined in a multiplicative manner.

The index for the economic security of single-parent families from poverty increased 5.2 percent in the 1990s, after falling 0.7 percent in the 1990s. This development reflected declines in all three determinants of the Index. The divorce rate declined 25 percent over the period, from 1.3 per cent of married couples in 1989 to 0.95 percent in 1999. The poverty rate for families with children headed by a single mother, while still very high at around one half of such families, fell 5 percent, while the poverty gap fell 9 percent. The overall pace of decline in this risk to economic security was similar in the first and second halves of the decade.

The major success story in the fight against economic insecurity in the 1990s, as was the case in the 1980s, was the large decline in the risk of poverty in old age. The variables included in the index of risk for poverty among those 65 and over in the IEWB are the poverty rate for this group, defined in relative terms as households with less than one half median equivalent income, and the poverty gap. These latter two variables combined represent poverty intensity. From 1989 to 1999 economic security for the elderly rose at a 10.2 percent average annual rate, almost identical to the 10.1 percent pace of decline in the 1980s. The poverty rate for the elderly fell 52.3 percent, from 19.7 percent in 1989 to 9.4 percent in 1999, while the poverty gap decreased 28.6 percent over the period.

INDEX OF ECONOMIC WELL-BEING AND ECONOMIC PERFORMANCE

From the point of view of this article, economic performance is defined as trends in the rate of growth of output, income in absolute and per capita terms, and employment and productivity. The evolution of the IEWB reflects the performance of these variables both directly and indirectly, and also reflects discretionary policy decisions that are largely unrelated to current economic performance in Canada and longer-run social trends. These discretionary policy changes and longer-run social changes may well be influenced by economic performance in the long run, but such feedbacks operate on a longer time scale than a decade. This section of the article attempts to allocate the main developments affecting the IEWB in the 1990s into the following categories: strongly influenced by current domestic economic performance; somewhat influenced by domestic economic performance in this decade; and largely independent of current economic performance in Canada (but not necessarily economic performance in other countries), because they are driven by either longer-run social trends or discretionary policy choices. As might be expected, not all developments neatly fall into one of these categories.

Well-Being Developments Strongly Influenced by Domestic Economic Performance

At least six variables that make up the IEWB were strongly influenced by the weak economic performance of the 1990s. Poor performance, at least relative to the 1980s, led to a decline in either relative or absolute terms of the contribution of these variables to economic well-being. The slower economic growth in the 1990s directly reduced personal consumption growth and reduced government revenues, forcing governments to cut back on current expenditures of goods and services. Slower growth also reduced corporate profits, thus lowering the rate of growth of business investment and R&D spending, which in turn slowed the pace of physical capital and R&D stock accumulation. Weak demand growth reduced employment growth, leading to a fall in the employment-to-population ratio through rising unemployment and falling labour-force participation. Because the economically vulnerable tend to be particularly hard hit by a weak economy and weak labour demand, the poverty rate and poverty gap, even measured in relative terms, increased during these periods.

Well-Being Developments Somewhat Influenced by Domestic Economic Performance

Four of the variables that make up the IEWB were somewhat influenced by economic developments in the 1990s but were also affected by longer-run social and technological trends. The rise in unpaid work, a trend which in itself is a positive to economic well-being as it increases consumption flows, may be partly related to higher unemployment and falling labour-force participation, particularly among older workers. Part of the increase in forced leisure may have been used for volunteer work and unpaid household activities. Government spending cuts believed necessary because of large deficits caused by the high interest rates and weak economy undoubtedly contributed to the rise in the proportion of disposable income going to medical expenses, given the cutbacks in the health area. The rise in income inequality, as evidenced by the Gini coefficient, in part reflects the influence of

FIGURE 1
Relationship Between Economic Performance and Economic Well-Being

Well-Being Developments Strongly Influenced by Current Domestic Economic Performance

- decline in personal consumption growth
- absolute decline in current government spending on goods and services
- declines in capital stock growth
- decline in R&D stock growth
- poverty intensity of the overall population
- employment/population ratio

Well-Being Developments Somewhat Influenced by Current Domestic Economic Performance

- increase in unpaid work
- stabilization of international debt levels
- increased income inequality (Gini coefficient) for the overall population
- rising proportion of disposable income going to medical expenses

Well-Being Developments Little Influenced by Current Policy Choices or Current Economic Performance

- increased life expectancy
- declining household size
- stabilization in the value of natural resource stocks
- stability of human capital accumulation
- falling divorce rate

Well-Being Developments Dominated by Current Policy Choices

- falling poverty intensity for the elderly
- falling poverty intensity for single-parent families
- falling EI coverage rate
- stable EI benefits rate

weak economic growth, but also was influenced by secular trends in the relative demand for skilled labour.

Finally, the stabilization of the level of Canada's international debt in the second half of the 1990s has to be seen partly in the context of its rapid increase in the late 1980s, as a historically high differential between US and domestic interest rates produced substantial capital inflows and an overvalued currency. As interest rate differentials returned to more normal levels there was less borrowing abroad. The result was a decline in the net claims of foreigners on Canada's future output.

Well-Being Developments Little Influenced by Current Economic Performance in Canada or Current Policy Choices

While not completely immune to the influence of current domestic economic performance, some variables are more influenced by social, cultural and demographic developments outside the economic realm. These may in turn be influenced by economic performance or economic policy decisions in the longer term, but, if so, the time scale involved is likely more than a decade. In this first category one might put the rising life expectancy in the 1990s (improved medical technology), the falling divorce rate (possibly due to changing norms regarding the costs and benefits of divorce), declining household size (increased aging of the population) and the stability of human capital accumulation (increased recognition of the importance of formal educational credentials for economic success).

Economic developments outside Canada are the key determinant of the value of our natural resources, which are determined by commodity prices set in world markets based on global supply and demand forces. Weak world growth tends to lower commodity prices while strong growth increases them.

Well-Being Developments Dominated by Current Policy Choices

For at least four variables, discretionary government policies were the main determinants in the 1990s: the large drop in poverty intensity among the elderly (indexation of pension benefits and expansion of public pensions); the small decline in poverty intensity among single-parent families (enrichment of certain benefits for this group such as the children's benefit); the fall in EI coverage (policy decision to tighten EI eligibility requirements and length of benefits); and the stability in the EI benefits rate (policy decision not to make changes to this rate).

CONCLUSION

After advancing in the 1970s and 1980s, the Index of Economic Well-Being declined in the 1990s. While nearly all of the 20 components of this Index are influenced by numerous factors, including non-economic factors, this article has shown that the poor economic performance of the 1990s, as manifested by the relatively slow rate of economic growth, contributed significantly to the fall in overall economic well-being, by reducing consumption and investment growth and forcing governments to cut spending on social programs and on the purchase of goods and services.

NOTES

1 In the fall of 1998 the Centre for the Study of Living Standards (CSLS) introduced a new indicator of sustainable development for Canada (Osberg and Sharpe 1998), appropriately called the Index of Economic Well-Being. Since then the CSLS has continued to develop the IEWB, producing estimates for the United States (Osberg and Sharpe 1999), the provinces (Osberg and Sharpe 2000*b*), OECD countries (Osberg and Sharpe 2000*a*, 2001*b*), and updated estimates for Canada and the United States (Osberg and Sharpe 2001*a*). The original empirical work on the Index was funded by the Applied Research Branch of Human Resources Development Canada, which published the first estimates for Canada (Osberg and Sharpe 1998). Subsequent work has not received external funding. The IEWB has stimulated much interest among researchers and policy analysts, particularly at the international level. In addition to the large number of presentations made on the Index to Canadian audiences, it has been presented at conferences and seminars in England, France (OECD), Spain, the Netherlands, Poland, Hong Kong and the United States.

2 By specifying additive sub-indices, we are implicitly assuming that preferences for social outcomes are separable in their components (e.g., that the weight placed on consumption does not depend on the weight placed on inequality). We do not explicitly constrain the weights to be assigned to each component of well-being, since we think of them as the preferences of different observers. However, some observers may, if they are consistent, have linked preferences — for example, if attitudes to insecurity are driven solely by risk aversion, then the weight an individual places on inequality and the weight they place on insecurity will both depend on the second derivative of their utility function.

3 It is important to note that because of long lags in the production of data, data for 1999 and in certain cases for 1998 were not available. Data for these years have been extrapolated or assumed to

be the same as the most recent actual data. For complete information on years for which data have been estimated and the methodology used, see the tables in Osberg and Sharpe 2001.

4 Although public opinion polling can reveal that many people feel economically insecure, and that such insecurity decreases their subjective state of well-being, the concept of economic insecurity is rarely discussed in academic economics. Consequently, there is no generally agreed definition of economic insecurity. We argue that economic insecurity is, in a general sense, "the anxiety produced by a lack of economic safety — i.e., by an inability to obtain protection against subjectively significant potential economic losses." In this sense, individuals' perceptions of insecurity are inherently forward looking, the result of their expectations of the future and their current economic context — hence only imperfectly captured by measures such as the *ex post* variability of income flows. Ideally, one would measure trends in economic security with data which included (for example) the percentage of the population who have credible guarantees of employment continuity and the adequacy of personal savings to support consumption during illness or unemployment. However, such data are not widely available. For these reasons, rather than attempt an overall measure of economic insecurity, this article adopts a "named risks" approach, and addresses the change over time in four key economic risks identified by the United Nations' Universal Declaration of Human Rights.

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Distributional Outcomes in Canada in the 1990s

Andrew Heisz, Andrew Jackson
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INTRODUCTION

This article examines the Canadian labour market during the 1990s and contrasts it to prior decades, with a special focus on distributional outcomes. It discusses changes in relative earnings between groups, changes in relative labour market outcomes of women and older workers, changes in earnings and income inequality and changes in low income.

The labour market in the 1990s is thought to have differed in many ways from earlier decades. Such differences can influence income levels and distributions and the relative earnings of various groups. For example, the "new economy" spurred on by the computer-technology revolution and expanding international trade has created new opportunities for many people, but also may have left behind less-skilled workers. New employment relationships have become increasingly common, as reflected in the growing number of self-employed workers. The very rapid growth in the educational attainment of workers, particularly among younger women and older workers, has certainly influenced relative earnings, and likely resulted in firms significantly altering their production processes. This in turn influences the relative wages of the less-skilled and highly skilled workers through shifts in labour demand. Changes in public institutions and transfer programs have no doubt affected the incomes of less well-off Canadians. Finally, all these factors have occurred in the context of slow macroeconomic growth, at least for the first half of the decade.

This article asks two questions: How has this environment affected the relative pay of various workers and the distribution of income among families? What groups of workers have gained and lost as a result of these changing patterns of work? Our primary objective is to present results on the distribution of income in Canada, which we hope will serve as a useful introduction to this subject. This article is descriptive in nature and draws on previously reported findings from many different sources.

The article focuses on four topics: (1) earnings and income inequality, (2) the relative earnings of the young and old and the more and less educated, (3) the changing relative position of men and women, and (4) changes in low income in Canada during the 1990s.

Earnings inequality rose modestly for men during the 1990s (compared to faster increases in the 1980s) but changed little for women. For workers as a whole there is little evidence of rising earnings inequality, at least to 1997. At the family level, however, earnings inequality did rise, driven largely by changes in family formation patterns. Through the middle 1990s inequality in family disposable income (after taxes and transfers) remained stable, as it had in the previous few decades in Canada. Generally speaking, the tax/transfer system prevented rising family earnings inequality from translating into rising family disposable income inequality, although there is evidence that family income inequality started to rise in the later 1990s.

However, aggregate inequality trends often mask significant changes in relative wages. Even within the context of little change in earnings inequality, there can be significant movements in the relative wages of various groups, movements that often offset one another when added together. During the 1990s there was a continued decline in real wages among young men overall, but wages for young university-educated men and women rose in the last years of the decade. The position of women has continued to improve in terms of labour-market outcomes and wages relative to that of men.

Low-income trends are significantly influenced by the business cycle, generally rising in periods of recession and falling in periods of expansion. During the 1990s, however, as weak expansion took hold throughout the 1993-96 period, the low-income rate did not fall as expected but continued to rise. The result was that during the latter half of the 1990s in particular, both the low-income rate (the share of the population in low income) and the low-income gap (the depth of low income) were higher than they had been in comparable periods during the 1980s, at least among the non-elderly population.

WHY DID RELATIVE INCOMES CHANGE IN THE 1990S?

Following are five broad factors which help to explain why incomes and work arrangements among Canadians may have changed during the 1990s.

Changes in Trade and Technology

Shifts in labour demand associated with trade and technology are thought to have resulted in considerable structural change in the economy. At the core of this change, workers with more skills or experience are thought to be in greater demand, while other workers are left behind. All other factors being equal, this would result in increasing relative wages for the more highly skilled. If the supply of highly skilled workers rose alongside demand, the wage impact of increased demand could be offset by the increased supply. The shifts in relative demand for the more or less highly skilled could potentially affect either relative wages or employment levels. In a country where wages are comparatively rigid, the impact of technological change may result in declining relative employment for less skilled workers rather than changing relative wages. This is sometimes called the "skill-biased technological change hypothesis," since technologies are thought to favour the outcomes of skilled over unskilled workers.

New Employment Arrangements

At the same time, many firms changed the way they managed their workforces. "Downsizing" and "contracting out" became buzzwords of the 1990s. Self-employment, which by its nature is a less stable form of employment than traditional "paid" work, grew substantially as a fraction of total employment in Canada.

These new employment arrangements may have affected labour-market performance. Betcherman and Lowe (1997) argue that six threads run through employers' search for a new model of management: global integration, technological change, innovations in work organization, business rationalization, the pursuit of high performance workplaces and new forms of labour relations. We know little about the extent to which most of these phenomena apply to Canadian firms, let alone their impact on labour-market outcomes or the incomes of Canadians. Osberg et al. (1994) provide interesting case study analyses describing the effect of new management principles on relationships within some workplaces in Nova Scotia.

The Rapidly Increasing Human Capital of Canadian Workers

While the above factors reflect changes in labour demand, changes in labour supply were perhaps equally dramatic. Most notably, the supply of highly educated workers continued to increase at a remarkable rate in the 1990s, spurred on by the expansion of the post-secondary education system begun in the 1960s and the retirement of less-educated cohorts of workers (Riddell 1995). Within the context of a general rise in the educational attainment of workers, there has also been a shift in relative education levels. In particular, the educational attainment of older workers and younger women has been rising faster than that of young men. Given the strong association between education and earnings, shifts in relative educational attainment will contribute to shifts in relative wages. The experience levels of Canadian workers also rose during the 1990s, as the workforce aged due to a maturation of the "baby boom" generation. Because of rising education levels and experience, the human capital embedded in Canadian workers rose significantly. Finally, historical increases in women's participation rates and their rapidly rising educational attainment reflect important social changes in Canada that have the potential to affect the supply of skilled workers, the relative earnings of men and women, and the income of families.

Beyond the direct impact of a more educated, experienced workforce on relative and real earnings, Acemoglu (1998) and Beaudry and Green (1999) argue that firms invested more in technology in order to take advantage of the rising educational attainment of workers. According to this hypothesis, the increased educational attainment of the workforce has encouraged firms to alter their production methods to make use of the higher skills. A strong investment in technology tends to push down demand for unskilled workers. This argument stands in contrast to the skill-biased technological change argument, wherein it is technology that is the prime mover.

Changes in the Institutional Landscape

The institutional landscape was also altered during the 1990s. Substantial revisions to Employment Insurance (EI) could have influenced structural unemployment, employment and the income of low-income Canadians relative to earlier decades. Major revisions to the social assistance system in many provinces in the late-1980s (expansion) and mid-1990s (contraction) and the introduction of the child tax benefit system by the federal government also could have affected incomes and employment among low-income Canadians. Minimum wages have changed little since the early 1980s, but the unionization rate has fallen (Sargent 2000). Fortin and Lemieux (1997) found that deregulation, declining real minimum wages and falling unionization were important determinants of rising wage inequality in the United States.

Aggregate Demand During the 1990s

Finally, all these changes took place within a national context of weak aggregate demand, which characterized the economy for most of the decade. Real GDP grew almost 3 percent per year over the 1980s, but at only 1.8 percent per year from 1990 to 1998. Associated with weak demand was weak employment growth rooted in stagnant hiring. The final years of the decade were years of strong growth, however, with the economy posting 4.5 and 4.7 percent real growth rates in 1999 and 2000, respectively. Canada's performance in 2000 was impressive compared with that of the other G7 nations, with only the United States posting faster expansion (Cross 2001). Growing aggregate demand translated into growing employment, as the unemployment rate fell to 6.8 percent, its lowest annual level since the current labour-force survey was begun in 1976. Mishel et al. (2001) argue that persistently low unemployment was a major factor behind faster wage and income growth in the United States in the late 1990s. Persistently low unemployment, it is argued, helped raise growth in productivity and gave workers an opportunity to shift away from contingent jobs. Changes in aggregate demand over a business cycle influence both relative and real wages. Earnings inequality and low-income rates tend to increase in economic contractions and fall in expansions. This is an important consideration when studying distributional trends. In attempting to determine if there are structural (i.e., longer-term and more permanent) changes in inequality and relative earnings, it is necessary to abstract from cyclical changes in aggregate demand and its effect on inequality.

CHANGES IN INCOME AND EARNINGS INEQUALITY

Few labour-market issues have evoked as much interest in the past two decades as earnings and income inequality. Differing trends among countries, particularly between Canada and the United States, often lead to confusion regarding Canadian outcomes Adding to the confusion is the fact that trends may differ according to whether one is referring to individual earnings inequali ty, inequality in family market earnings, or inequality in family disposable income. This review focuses on all three levels, and contrasts Canadian outcomes with American.

Why focus on all three levels? Inequality of earnings (wages) provides a window on how the labour market is distributing employment earnings among individual workers. It is primarily a reflection of the interaction of labour supply and demand forces, as well as the effect of institutional features of a labour market (e.g., labour legislation, minimum wage levels, social assistance and EI regulations). Inequality of family market earnings simply places individual workers into families, determines family earnings and adds investment earnings. This relates more to the "welfare" of Canadians than individual earnings inequality (which is more of a reflection of events in the labour market), since it is concerned with family outcomes. Finally, inequality of disposable family income is the level at which most analyses concerned with welfare or well-being focus. Social transfer income (e.g., social assistance, public pensions, EI benefits, tax credits) is added to market income, and the distributive effects of taxes are included. This provides a measure of how all monetary income available to Canadian families is distributed. Changes in inequality at this level reflect the distributional outcomes driven by labour-market forces, government transfer and taxation policies, and social forces affecting family formation.

Earnings inequality rose in a number of countries, including Canada, the United States and the United Kingdom, between the 1970s and 1980s. There was a substantial fall in the earnings of lower-paid workers, particularly males, while the earnings of higher-paid workers either remained stable or increased (Beach and Slotsve 1996; Morissette et al. 1995). The Gini coefficient is a well-known summary measure of inequality. This measure takes on values between 0 and 1, a higher value indicating that earnings inequality is greater, and the variation in earnings among workers has increased. Earnings inequality tends to rise in recessions and decline in economic expansions, and hence when longer-term trends are being sought, the years being considered should be in the same part of the business cycle (or the cyclical variation removed from the series). In Canada, the Gini for individual employment earnings among men rose from 0.351 in 1974 to 0.392 in 1985 (up 11.7 percent), then to 0.402 in 1995 (up 2.6 percent) (Table 1). Among women the changes were less significant, up 5.4 percent between 1974 and 1985 and steady between 1985 and 1995. With the improving economy between 1995 and 1997, Ginis fell for men and women. In the United States, in contrast, earnings inequality for men rose steadily, up 9.5 percent between 1974 and 1985 and up 10.4 percent between 1985 and 1995. As in Canada, changes in earnings inequality among women were more muted.

However, with the rise in the share of women working, the increased educational attainment of young women and the continued movement of younger women into traditionally male occupations, women and men are becoming increasingly integrated in the labour market. From a labour-market perspective, the distinctions between them, while still very evident, are declining. Hence it is useful to view earnings inequality from the perspective of all workers, men and

TABLE 1

Inequality in Individual Earnings, Family Market Earnings and Disposable Family Income

(1992 dollars)

	Gini Coefficient			
	1974	1985	1995	1997
Individual Employment Earnings[1]				
Canada				
Men	0.351	0.392	0.402	0.397
Women	0.407	0.426	0.421	0.411
Both	0.406	0.428	0.423	0.418
United States				
Men	0.377	0.413	0.456	0.456
Women	0.425	0.428	0.441	0.439
Both	0.437	0.446	0.467	0.466
Family Market Earnings[2]				
Canada	0.389	0.402	0.427	0.423
United States	0.421	0.459	0.501	0.502
Family Disposable Income[3]				
Canada	0.303	0.293	0.291	0.292
United States	0.327	0.355	0.379	0.392

[1] Includes paid-employment and self-employment earnings. Includes persons aged 18–64 who earned more than $500 during the year.

[2] Based on economic families. Includes employment earnings and investment income. Family earnings are adult-equivalent adjusted (to account for economies of scale associated with larger families) and the individual is the unit of analysis.

[3] Based on economic families. Family income is adult-equivalent adjusted, and each individual is assigned the adult-equivalent adjusted family income. The individual is the unit of analysis. Includes employment and investment earnings, pension, social transfer income and taxes paid.

Source: Wolfson and Murphy (2000).

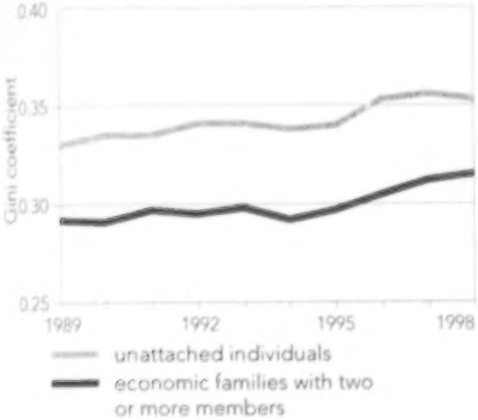
women combined, and think about a single labour market. In Canada, earnings inequality among all workers rose throughout the 1980s but increased little in the 1990s. The Gini for all workers rose from 0.406 to 0.428 between 1974 and 1985. By 1995, however, a year that is roughly in the same position in the business cycle as 1985, no increase was evident, and by 1997 the Gini had fallen slightly. Although individual earnings inequality rose in the 1980s, there is little evidence of strong increases in Canada in the 1990s (Green 1999; Picot 1998; Wolfson and Murphy 2000). In the United States, on the other hand, earnings inequality continued to increase up to 1997 (Table 1).

However, earnings inequality represents a very broad and general indicator of distributional features of the labour market. No increase in inequality, as was the case in Canada during the 1990s, does not imply that there were no significant redistributional events affecting particular groups or substantial shifts in relative wages. Such movement can be offsetting, so that while there are important changes in the earnings of one group relative to another (say, younger men compared to older men, or women compared to men) overall inequality may not be seen to increase. These and other trends offset each other so that, among all workers, the distribution of employment earnings changed little in the 1990s (Picot 1998).

When earnings are aggregated to the family level, inequality is seen as continuing to increase in the 1990s. Data in Table 1 are adult-equivalent adjusted, so change in the size of families is accounted for and the results include both individuals and families. The Gini for family market earnings inequality rose from 0.389 in 1974 to 0.402 in 1985, and continued to rise to 0.427 in 1995 (and to 0.423 in 1997). From a welfare perspective, this is perhaps a more useful measure of earnings inequality than individual

CHART 1

Inequality of Family Disposable Income, Gini Coefficients



Source: Statistics Canada (2000).

earnings. The differences in outcomes between family and individual earnings inequality primarily reflect changes in marriage and family formation patterns. Increasing numbers of single-parent families (which tend to have low family earnings) and an increasing tendency for "like" to marry "like" (i.e., low earners marrying low earners, high marrying high) resulted in rising inequality in family market earnings, even though inequality in individual earnings did not rise in the 1990s (Zyblock 1997; Wolfson and Murphy 2000).

When one considers only income measures, as we are here (i.e., excluding references to wealth and other aspects of economic well-being), perhaps the best reflection of changes in the relative "economic welfare" of Canadians is inequality in family disposable income. Family disposable income reflects the distribution of total monetary income available to families, including earnings, pensions, social transfers, and other market and non-market sources of income, and also accounts for the effect of personal income taxes on inequality. There was little change in family income inequality throughout the 1970s, 1980s and most of the 1990s (Wolfson and Murphy 1998). The Gini was 0.303 in 1974 and 0.293 in 1985, and remained at that level, registering 0.292 in 1997 (Table 1). Generally speaking, family income inequality has changed little over the past 30 years. This is because employment earnings losses among lower-income families were largely replaced by increases in social transfer payments (e.g., social assistance, EI benefits, rising public pension income, child tax credit) throughout the 1980s in particular. More recent data do suggest that family income inequality may have increased in 1997-98.

Chart 1 shows Gini coefficients from 1989 through 1998. For families only (excluding unattached individuals), the level of disposable income inequality was steady from 1989 through 1995, at a seven-year average of 0.294, and rose to between 0.312 and 0.315 in 1997-98. Similarly, disposable income inequality among unattached individuals was steady between 1989 and 1995 at an average of 0.337, rising to an average of 0.354 between 1996 and 1998. However, these figures are not adult-equivalent adjusted, and changes in data collection over this period may also have affected these results.[1] More research is needed to better understand the change in family income inequality during the late 1990s. In the United States, on the other hand, family income inequality increased steadily. The Gini rose from 0.421 in 1974 to 0.459 in 1985 and 0.502 by 1997 (Table 1). Although the United States was faced with an increase in earnings inequality similar to that in Canada during the 1980s, the US transfer system did not similarly respond to prevent increases in inequality (Blank and Hanratty 1993). Much of the common perception in Canada that family income inequality has increased during the past three decades may well stem from these American results.

As noted earlier, inequality and relative wages can change significantly over a business cycle. In particular, during periods of low unemployment and relatively high labour demand late in an economic expansion, the relative position of low-wage workers can improve. Mishel et al. (2001) examined US wage inequality in the 1990s. They found that since 1995 low earners had been closing the gap between them and middle- and working-class workers, while the top earners continued to pull away from the middle. Regarding family income inequality, in the second half of the 1990s the top continued to pull away from the middle and the middle to pull away from the bottom. The authors argue that persistently low unemployment in the late 1990s, coupled with rising minimum wages throughout the decade (after declines in the 1980s), contributed to improvement at the bottom of the distribution, while globalization, deunionization and the shift to low-paying industries kept wages at the top growing. In contrast, distributional changes appeared to be unrelated to technological change. One of their findings is that employers in the high-technology sector have not been the source of growth in employment, nor have they been wage leaders (in terms of growth), in the United States.

CHANGES IN RELATIVE EARNINGS

Changes in inequality are in general related to changes in relative earnings among groups — for example, older compared to younger workers, more skilled compared to less skilled workers. However, the two concepts are not synonymous. Inequality trends include changes in relative wages not only *among* groups (defined by age, education, gender, etc.) but also *within* groups. And changes in within-group inequality have been a very important, though often ignored, part of the inequality story. Furthermore, aggregate inequality measures, such as the Ginis presented above, can show little change while beneath this apparent stability lies important, and offsetting, movement in the relative wages of various groups. Here, we focus on the changes in the relative earnings of older and younger workers, the more and less educated, and men and women. These are topics that have received considerable attention in recent decades.

Declining Real Earnings Among Young Workers, Particularly Men

Cross-sectional data clearly indicate a widening earnings gap between younger and older workers, particularly among men, in the 1980s and 1990s. This was related mainly to a fall in the real earnings of young male workers (Betcherman and Morissette 1994; Picot 1998). Real weekly earnings of young men (under 35) working full-time fell throughout the recessions of both the early 1980s and the 1990s. Modest increases for 18-24-year-olds during the 1980s expansion, and for both 18-24 year-olds and 25-34-year-olds during the late 1990s expansion, failed to fully offset these declines. Meanwhile, earnings rose for older men (aged 45-64), further widening the wage gap (Chart 2). For women, earnings declined only for the youngest group, the 18-24-year-olds (Chart 3).[2] Rising relative wages for older men might suggest an increase in returns to experience. Young workers may start out with relatively low earnings but catch up as they age and gain experience. However, this does not appear to be the case. Beaudry and Green (2000*b*) found that when successive cohorts of men were examined as they entered the labour market and gained experience, the age-earnings profile shifted downward for the more recent cohorts. Wages have fallen for young men entering the labour market, and do not catch up to those of earlier cohorts as the men gain experience. This decline in wages was observed for both the more and the less educated. More recent work using data from a longitudinal graduates survey uncovered similar trends for male bachelor graduates, although the magnitude of the decline was not as great over the 1990s (Finnie 2001).

Little is known about the cause of the declining earnings, both real and relative (to earlier cohorts), of young workers, men in particular. Changes in supply do not explain the drop, since the supply of younger workers has been falling, not rising, both in absolute terms and relative to the overall supply of labour; this would tend to increase rather than reduce relative wages.

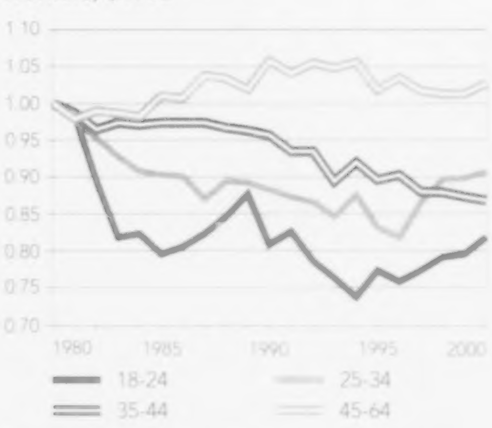
Proponents of the skill-biased technological change hypothesis draw a connection between increasing returns to skill and changes in the distribution of earnings by age. These influential authors argue that skill-biased technological changes increased the demand for skills of all types and that rising male earnings inequality was consistent with increasing returns to experience or age (Juhn et al. 1993; Katz and Murphy 1992; Bound and Johnston 1992; Davis 1992).

As was the case with the role of technological change explaining the shifts in relative earnings by education level, some argue that the role of technological change in explaining falling real wages among young men may also have been overstated. Green (1999) and Sargent (2000) argue that the changes in labour-market outcomes and industrial structure that prevailed in the 1990s are not necessarily the changes one might expect to see in an economy where technological change is driving structural change. Changes in information technology have clearly had an impact on labour-market outcomes for workers, and are part of the evolution of the 1990s labour market. But some important phenomena cannot be explained and are at times inconsistent with the belief that technology is the sole driving force, or perhaps even the primary one.

For example, earnings inequality in Canada has risen and continues to rise among men but has changed little among women (Picot 1998). Green (1999) asks how one can reconcile this fact with technological change, which presumably continued into the 1990s and should have affected women as well as men. Also, as discussed above, wages have declined across cohorts — increasing returns to experience have not taken place within cohorts — so there is little validity to the argument that increasing wage premiums for experience is consistent with the effects of technological change (Beaudry and Green 2000*b*). And if technological change in the shift to the knowledge-based economy is boosting the demand for skilled labour, why have the earnings of young men been falling? It is among the young that computer-related skills are the highest.

In the United States, where the increase in the wage premium for education and experience has been substantial, the increase

CHART 2
Indexed Median Earnings, Full-Time Male Workers, $1992

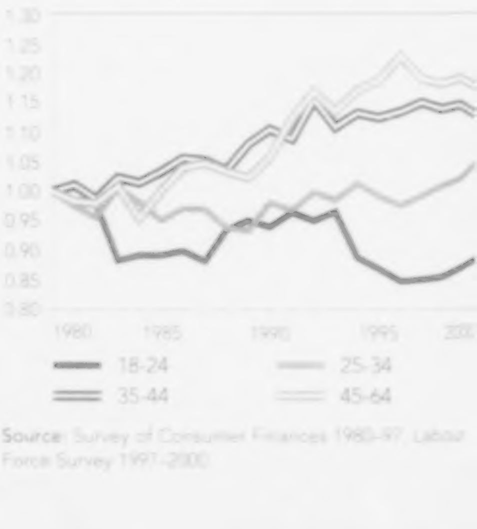


Source: Survey of Consumer Finances 1980-97, Labour Force Survey 1997-2000.

accounts for only about 45 percent of the overall rise in inequality. The remainder is found within groups of similar educational attainment and experience (Mishel and Bernstein 2001). Hence, even if the rise in the education and experience wage premium were fully driven by technology, much of the overall increase in earnings inequality remains unexplained. However, technology likely is only one of several factors that explain this premium. The others include a drop in the real federal minimum wage over the 1980s and a continued decline in unionization in the United States (Mishel and Bernstein 2001). These and other inconsistencies in the evidence supporting the skill-biased technological change hypothesis have encouraged researchers to look to other explanations such as the impact of changes in institutions, as argued by Fortin and Lemieux (1997).

It may be that changes in labour supply partly explain why young males in particular saw their relative earnings fall. This relates especially to the rising education levels of older workers and younger women. In 1981, 16.4 percent of men aged 25 to 34 held a degree, compared with 11.8 percent of men aged 45 to 54. By 1995, the gap had disappeared, the numbers rising to 22.2 and 22.5 percent, respectively; both age groups had become much more educated, particularly the older group. The gap did not close to the same extent for women, largely because of the dramatic increase in the educational attainment of young women. In 1981, 16.6 percent of younger women held a degree, compared to 6.9 percent of older women. By 1995, the figures had risen to 25.3 (higher than for young men) and 19.2 percent, respectively. The rapid increase among 45 to 54-year-old workers was related to the rapid increase in university enrolment rates during the 1960s and early 1970s: these cohorts were now moving into the 45-54 age group, replacing much less educated cohorts. Kapsalis et al. (1999) conclude that the changing relative educational levels of the young and old accounted for about one quar-

CHART 3
Indexed Median Earnings, Full-Time Female Workers, $1992



Source: Survey of Consumer Finances 1980-97, Labour Force Survey 1997-2000 ter of the widening cross-sectional earnings gap between younger and older workers in the 1980s and, even a larger share during the 1990s. We discuss the declining educational advantage of young men in more detail later in this article.

Wage Premium for Higher Education: No Marked Increase Among Workers Overall, Rising Among Younger Workers

The basic facts suggest that in Canada throughout the 1980s and up to the mid-1990s, there was no overall increase in the returns to education (Morissette et al. 1994; Bar-Or et al. 1993; Beach and Slotsve 1996). This is in contrast to developments in the United States, where the wage premium rose among the more highly educated (Juhn et al. 1993; Freeman and Needels 1991).

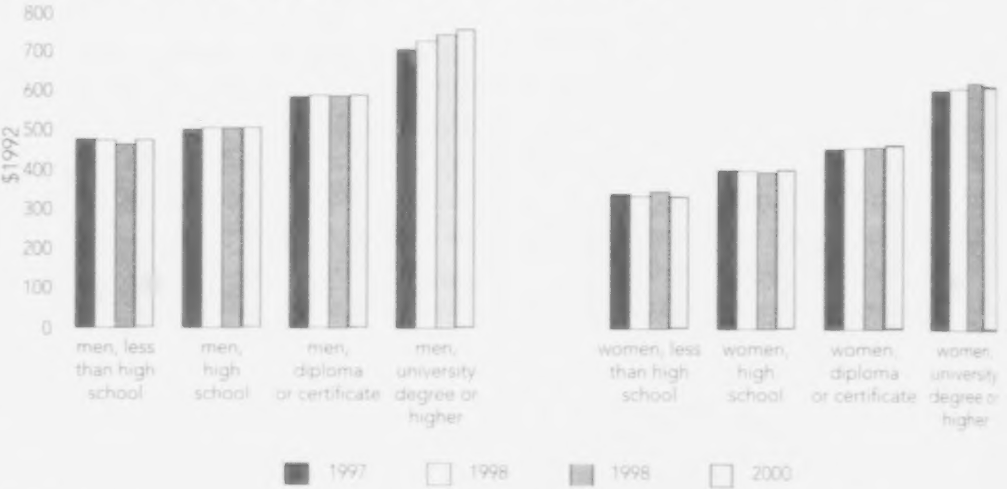
There is a developing literature on the role played by technological change in explaining the phenomenon of increasing relative wages for more educated Americans. According to the skill-biased technological change hypothesis, technological change has increased the demand for highly skilled workers. This would result in increased wages for this group relative to the less skilled — unless wages were highly rigid, causing a shift in relative employment, or the supply of educated workers rose sufficiently to offset demand.

Interestingly, neither relative wages nor employment rates appear to have changed significantly for the more highly educated in Canada among workers as a whole. The employment-to-population ratios of those with a university or high-school education show no relative gain among the educated in terms of the likelihood of being employed, although for those with less than a high school education there has been a drop in the likelihood of being employed (Sargent 2000). It is not that the relative position of the very highly educated improved, but that the position of the least educated deteriorated. One explanation for this stable pattern of relative earnings in Canada, which is consistent with the skill-biased technological change hypothesis, is that the relative supply of highly educated workers increased at a rate that offset the increase in the relative demand. Increases in supply offset increased demand caused by technological change, resulting in little change in the relative labour-market status of skilled and unskilled workers (Freeman and Needels 1991; Murphy et al. 1998). This is a commonly accepted explanation of the difference between Canada and the United States with respect to changing relative wages among the highly educated. Riddell and Sweetman (2001) examine labour market outcomes of the more and less educated and find substantial evidence consistent with the view that there has been a steady increase in the demand for skills in Canada.

A second hypothesis, recently put forth by Beaudry and Green (1999), argues that the role of technological change in the relative earnings gap in the United States may be overstated. They argue that firms invested more in technology in order to take advantage of the rising educational attainment of workers. According to this model, sometimes called the "endogenous technical choice" hypothesis, the increased educational attainment of the workplace has encouraged firms to adapt their production methods to make use of the higher skills. When firms invest heavily in technology, the demand for unskilled workers tends to go down. In this

CHART 4

Average Real Weekly Wages, 20–34 Age Group, 1997–2000



Source: Labour Force Survey.

scenario, it is the rising educational attainment of the workforce that is the principal cause of many of the changes in the relative wages. This possibility is also stressed in theoretical work by Acemoglu (1998).

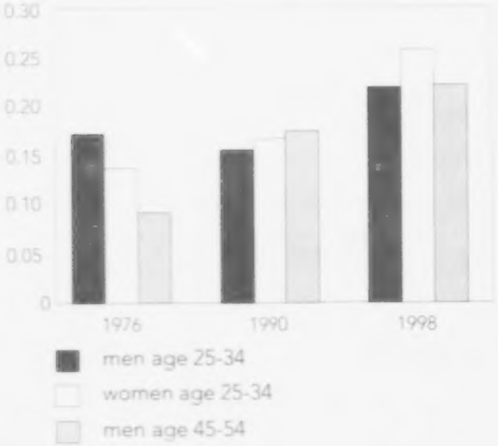
A third explanation, which has received less attention in Canada, is that institutional factors underlie the changes in real wages. Fortin and Lemieux (1997) found that declining real minimum wages, falling unionization and deregulation were important determinants of rising wage inequality in the United States.

The relative merit of these explanations continues to be debated. Most recently Beaudry and Green (2000*a*) compared the changing structure of wages in the United States and Germany over the past 20 years. They point out that while the educational composition of the two workforces evolved similarly, the wage premium for education rose more in the United States. The OECD (1994) offers the explanation that because Germany had relatively rigid wages, skill-biased technological change manifested itself in rising unemployment rates among the less skilled. Beaudry and Green (2000*a*) offer the alternative hypothesis that the United States under-accumulated physical capital relative to human capital, while Germany invested in a more balanced manner; Germany's more rapid accumulation of physical capital helped ensure sufficient demand and productivity gains for less-skilled workers that kept their wages from declining. In addition, Kuhn (2001) concludes that differences in labour market rigidities between Canada and the US are unlikely to explain much of the Canada-US unemployment rate gap.

In any case, to state that there has been no increase in the education premium for workers in Canada is to obscure relative changes within some groups. Bar-Or et al. (1995) examined wages by education group from 1971 to 1991 using Survey of Consumer Finances data. They found that returns to higher education did not rise in the 1980s except among the youngest group (those with experience levels of one to five years), who saw modest increases. Furthermore, recent data from the Labour Force Survey show that the earnings of young university-educated workers, both real and relative to the less educated, have increased in recent years. Chart 4 shows average real weekly wages for the 20-34 age group from 1997 (the first year the LFS collected wage information) to 2000. While other groups stagnated in earnings, young men, in particular those with university degrees, enjoyed small wage increases over these years.

CHART 5

Proportion of Population with a University Degree



Source: Labour Force Survey.

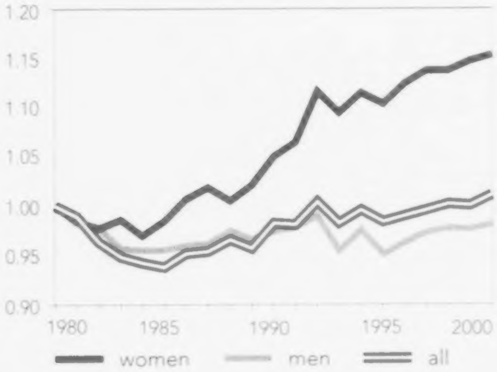
THE SHIFTING RELATIVE LABOUR MARKET POSITION OF MEN AND WOMEN

The changing relative position of women and men is one of the more interesting labour-market phenomena of the past two decades, and one that may not be receiving the attention it is due. The changing position of women has several dimensions. Young women have rapidly increased their education levels relative to men. They are occupying more jobs, and while wages remain lower for women, the gap is closing. Generally speaking, the likelihood of being employed has increased for women and declined for men, while that of being unemployed has increased for men and declined for women. The offsetting trends between the two groups are seen in earnings levels, earnings inequality, the likelihood of being employed (employment-to-population ratios) and the likelihood of being unemployed. We discuss each of these in turn below.

Educational Attainment Rising Faster for Women

Women have increased their educational attainment, both in real terms and, perhaps more significantly, relative to men. For example, between 1976 and 1998 the fraction of women in the labour force with a university degree increased by 7.7 percent a year, compared to 4.2 percent for men. The result is that the gap between men and women in the share holding a degree disappeared by 1998. In fact, the 1976 educational advantage of younger men (over younger women and older men) had more than disappeared by 1998, at which time a larger share of young (25 to 34-year-old) women than men held a degree (Chart 5). Since human capital is a major determinant of labour-market outcomes, it should not be surprising to learn that the relative earnings, employment and unemployment of women are improving. However, there are likely other factors at play. Picot and Heisz (2000) note that even after controlling for change in human

CHART 6
Indexed Median Earnings, Full-Time Workers, $1992



Source: Survey of Consumer Finances 1980–97, Labour Force Survey 1997–2000.

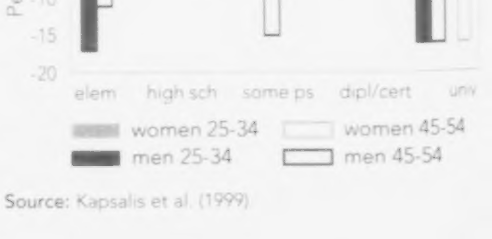
capital characteristics (education and age), employment and unemployment outcomes deteriorated for men but not for highly educated women and relatively little for other women. And, as will be shown below, even after controlling for broad education and age (experience) levels, women's earnings rose more rapidly than men's in the first half of the 1990s.

Narrowing of Male-Female Earnings Gap

While aggregate data indicate that women continue to earn less than men, the gap has been narrowing. The ratio of annual earnings of women to men working full-year full-time rose from 58.4 percent in 1967 to 72.5 percent in 1997 (Survey of Consumer Finances data). Annual earnings are not the best indicator of relative wages, however, since they do not fully control for weeks worked in the year or hours worked per week, which are known to be higher for men. Drolet (2000) found that in 1997 the raw hourly wage ratio of women to men was 80 percent, but increased to 89 percent after controlling for a host of human-capital, productivity-related, and industrial and occupational characteristics.

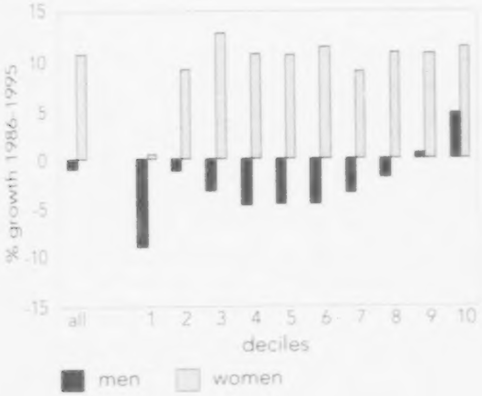
And over the 1990s, women's aggregate earnings increased much more quickly than men's. The weekly earnings of female full-time workers increased significantly more in the 1990s than in the 1980s, rising 13 percent between 1989 and 2000 (Chart 6). Weekly earnings were stable among comparable male workers. Controlling for age, education, full-time/part-time status and industry produces much the same results. Kapsalis et al. (1999) ran wage equations for men and women (separately) in different age groups and computed expected weekly earnings, controlling for industry, region and full-time/part-time status. During the 1989-95 period, the growth in expected weekly earnings was greater for women than men (except among the university educated) (Chart 7). Basically, men's weekly earnings were declining and women's were rising. Evidence based on annual earnings suggests that this phenomenon is independent of

CHART 7
Growth in Average Weekly Earnings, 1989–95



Source: Kapsalis et al. (1999)

CHART 8
Growth in Average Annual Real Earnings, 1986–95



Source: Kapsalis et al. (1999).

location in the earnings distribution. The growth in annual earnings of women has far outstripped that of men across the entire earnings distribution. Between 1986 and 1995, two years roughly comparable in terms of position in the business cycle, women's annual earnings rose 10.6 percent and men's fell by 1 percent. Except for women at the very bottom of the earnings distribution (where earnings rose by only 0.4 percent), earnings growth was between 9 and 11 percent. Men's earnings fell across the entire earnings distribution except among those in the top two deciles, where there were earnings gains (Chart 8). There are numerous possible reasons for these phenomena. Women are moving into higher-paid occupations and fields of study at an increasing rate, and such effects would not necessarily be controlled for in the broad type of controls used in the work reported here. The wage gap has been narrowing for male and female graduates, and the higher the education level, the narrower the gap. Finnie and Wannell (1999) found that among the latest cohort of graduates in their study (1990), the male/female wage gap for doctoral graduates had disappeared, at least during the five years following graduation.

Employment Indicators Improving for Prime-Aged Women Relative to Men

Earnings growth during the 1990s was largely positive for women and stable or declining for men. This dichotomy is reflected in employment and unemployment outcomes as well. There may be special conditions influencing the outcomes of younger workers (changing employment patterns among students) and older workers (increasing early retirement), which could affect the relative positions of men and women. Hence we focus on prime-aged workers, those 25 to 54 years old. Labour-force statistics suggest that the position of prime-aged men deteriorated between the late 1980s and the late 1990s, while that of women improved. We computed average employment and unemployment rates for the 1987-89 period and compared them to average rates for the 1998-2000 period. These two periods are at a roughly comparable position in the business cycle (approaching the cyclical peak), and hence the comparisons represent a structural change between the decades, not just cyclical variation.

Labour-force participation fell for men (by 2.7 percent) and rose for women (by 7.2 percent) (Table 2). The unemployment rate remained largely unchanged for men (falling 0.1 percentage points) but fell substantially for women (1.5 percentage points). Hence, while unemployment was higher among women during the 1980s, this situation was reversed by 1998-2000. The employment-to-population ratio fell for men (2.6 percent) and rose for women (8.9 percent). The one statis-

TABLE 2
Labour Force Statistics, Prime-Aged Workers (25-54 Age Group)

		1987–89	1998–2000	% Change	Difference
Labour-Force Participation Rate	All	83.2	84.6	1.6	1.3
	Men	93.6	91.1	-2.7	-2.5
	Women	72.9	78.1	7.2	5.2
Unemployment Rate	All	7.2	6.4	-10.2	-0.7
	Men	6.6	6.5	-2.0	-0.1
	Women	7.9	6.3	-19.5	-1.5
Employment to Population	All	77.3	79.1	2.4	1.9
	Men	87.4	85.1	-2.6	-2.2
	Women	67.2	73.1	8.9	6.0
		1984–86	1994–96	% Change	Difference
Inflows to Unemployment[1,2]					
	All	1.95	1.86	-4.4	-0.1
	Men	1.73	1.84	6.1	0.1
	Women	2.25	1.89	-15.7	-0.4
Duration of Unemployment (Months)[2]					
	All	4.3	4.4	2.5	0.1
	Men	4.6	4.5	-2.8	-0.1
	Women	3.8	4.3	11.7	0.4

[1] Fraction of labour force entering unemployment.
[2] 1996 is the most recent year available for inflows to and duration of unemployment.
Source: Labour Force Survey.

tic that worsened for women was unemployment *duration*, which rose by 11.7 percent among women but declined marginally among men (2.8 percent) — comparing 1984-86 to 1994-96, the most recent years for which data are available. These changes in duration were more than offset by increases in the *incidence* of unemployment among men and declines among women (by 15.7 percent).

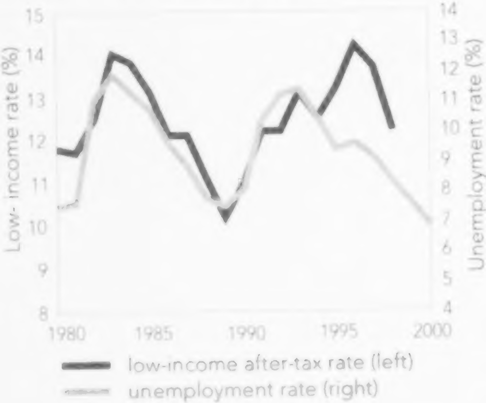
Changes seen in the cross-section are reflected in similar change by age cohort. Beaudry and Green (2001) compare high-school and university graduates for 1971-1993, tracing the employment of various cohorts of labour market entrants as they age. Cohorts of male high-school graduates entering later in this period did poorly relative to those that entered earlier. Men with university degrees and women saw only small secular declines.

There are certainly many reasons for this change in relative labour-market position. These include changes in the types of jobs held by women and the industries in which women work. However, little is known about these relative shifts in earnings, employment and unemployment. This remains one area requiring further research.

LOW-INCOME TRENDS IN THE 1990S

While inequality measures indicate how income is distributed among all Canadians, low-income measures focus on the families at the bottom of the distribution. Traditionally, analysis focuses on the share of the population below some low-income cut-off (the low-income rate) and asks whether this rate is rising or falling, and why. But it is also important to know whether the families in low income are better or worse off than they were in the past. This is determined by the low-income gap (the income gap between the low-income cut-off and average family income among low-income families). A final important dimension of low income is its persistence. How long do families tend to stay in low income once there? If families are "trapped" in low income for many years, this represents a more serious issue than if families move relatively quickly in and out of low income. This section discusses trends in these three components — the low-income rate, the low-income gap and the persistence of low income among Canadian families.

CHART 9
Low-Income and Unemployment Rates



Source: Labour Force Survey, Statistics Canada (1997a).

The Low-Income Rate

There are a number of low-income cut-offs in use. If a family's income falls below the cut-off, it is said to be in the low-income population. Here we use Statistics Canada's LICO (low-income cut-off) based on after-tax and transfer income (i.e., disposable income). In 1998 dollars, the post-tax LICO in a large urban centre was $14,510 for a single person and $27,890 for a family of four. How did the low-income rate fare in the 1990s relative to the 1980s? In answering this question it is important to separate cyclical variation from longer-term trends. Low-income rates always rise in recessions and fall during economic expansions. Chart 9 shows the rate of low income among all Canadians (based on after-tax income) for the period 1980-98. It also plots the unemployment rate. Cyclical movements in the low-income rate mirrored cyclical changes in the unemployment rate, at least up to 1994 (the correlation coefficient over the period 1980-94 was 0.85). Following 1994, trends in low income diverged from the unemployment rate such that 1996 and 1997 were peak years for low income despite improving labour markets. The low-income rate recovered somewhat between 1997 and 1998, but by 1998 had not fully returned to the level expected based on the business cycle.

Table 3 provides data on persons in low income (based on post-tax LICO) for 1981, 1988, 1989 (the cyclical peak year during the 1980s), 1993 (when the overall economic recovery began to take hold) and 1998. As shown, the overall low-income rate for all persons in 1998 was 12.2 percent, down from 13.1 percent in 1993 but 1.1 percentage points above the 11.1 percent level of 1988, a year roughly comparable in terms of position in the business cycle. Overall, the low-income rate was somewhat higher during the 1990s than the 1980s. It rose for four years following the end of the recession (1992), peaking in 1996. This increase occurred in spite of a slowly recovering econ-

TABLE 3

Low-Income Rate (After Tax) by Gender, Age and Family Status (percentage)

	1981	1988	1989	1993	1998	% of Low-Income Population (1998
All	11.7	11.1	10.2	13.1	12.2	100
Men	10.0	9.5	8.8	12.0	11.4	46.1
Women	13.5	12.6	11.5	14.3	13.0	53.9
Elderly						8.7
In families	7.2	4.1	3.1	3.3	3.0	2.0
Single	49.1	30.6	27.3	26.3	20.8	6.7
Children (<18)	12.5	12.5	11.8	15.9	13.8	24.8
Two-parent families	n/a	n/a	7.0	9.9	8.3	13.0
Single-parent families	n/a	n/a	48.0	48.6	45.3	11.8
Aged 18–64 in families	7.3	6.8	6.4	8.9	8.1	35.9
Aged 18–64 single	29.9	29.3	27.9	32.7	33.9	28.4

n/a Data are not available for these subgroups.

Source: Statistics Canada (1997a, Table 3; 2000, Table 8.1).

omy and falling unemployment. During the 1980s the increase lasted only one year after the end of the recession (1982), peaking in 1983. Various groups were affected in different ways. Among seniors, low-income rates — already very low for seniors in families — fell in the 1990s. Among the population aged 18-64, in contrast, low-income rates were higher in 1998 than in 1988. This rise was observed among both singles (increasing 4.9 percentage points between 1988 and 1998) and families (increasing 1.3 percentage points between 1988 and 1998).

The low-income rate of children dropped from the cyclical high of 17.2 percent in 1996 to 13.8 percent in 1998. However, the rate in 1998 was still above the 12.5 percent posted in 1988. The low-income rate was higher in the late 1990s than the late 1980s. The opposite trend was observed during the 1980s; the low-income rate among children fell from 12.5 percent in 1981 to 11.8 percent in 1989 (comparing cyclical peaks).

Why this increase in the incidence o low income between 1988 and 1998? Picot, Morissette and Myles (2001) found that the key driver of the trend among the population under age 65 was the inability of the labour market to provide as much employment income to low-income working-age households in the 1990s as in the 1980s. They found that virtually all of the 1.1 percent increase in the low-income rate over the 1988-98 period was associated with declines in employment earnings among families; changes in transfer benefits neither offset these changes in employment earnings (as they did during the 1980s) nor contributed directly to an increase in the low-income rate. They found, however, that during the 1993-96 period alone, when the low-income rate deviated from its expected trend based on movement in the unemployment rate (Chart 9), all of the unexpected increase was due to changes in transfers (e.g., EI benefits, social assistance, child tax benefits) received by low-income families. For the entire 1988-

98 period, the effects of the 1993-96 decline in benefits were offset by increases during other parts of the decade. Hence, over the decade as a whole the main story rests with poor growth in employment earnings. This decline in employment earnings among poorer families was observed in the 1980s as well, but rising social transfer payments more than offset the earnings decline and the low-income rate actually fell. Social transfers did not offset earnings losses during the 1990s.

There was substantial variation by province, and the impact of changes in earnings on low income was more severe in central and eastern Canada than in the West, because during the early 1990s the recession was more severe in this part of Canada than in the western provinces.

Canada's Standing Internationally

Internationally, Canada's standing varies according to the population group being considered. Although studies of domestic low income typically rely on Statistics Canada's LICO, for international comparisons the standard is the low-income measure, or LIM, which sets the low-income cut-off at one half the median family income in the country of interest.[3]

In the mid-1990s, the overall incidence of low income after tax using this measure was 11.2 percent in Canada, far below the 17.7 percent in the United States but well above the 6.5 percent in Sweden (OECD 1998b). Canada was in the middle of the pack internationally when the focus is low income among children, but was one of the best countries in terms of low income among the elderly. The United Nations agency UNICEF recently reported that in the 1990s the child low-income rate (falling below one half of the median household income) in Canada was 15.5 percent, compared to 22.4 percent in the United States and just 2.6 percent in Sweden, but the low-income rate among the elderly, defined on the same basis, was just 4.8 percent in Canada, compared to 23.7 percent in the United States and 6.0 percent in Sweden (UNICEF 2000). Osberg (2000) found that due to the increase in Canadian low-income rates during the 1990s, the gap between Canadian and American rates narrowed in that decade, to the extent that some US states had low-income rates below some Canadian provinces. This was not the case in the 1980s.

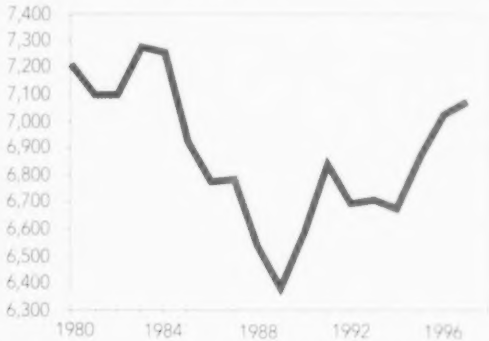
Depth of Low Income

The economist Amartya Sen, a Nobel laureate, has pointed out that the proportion of the population living in poverty (the poverty rate) could be perversely reduced by redistributing income from the very poor to those just under the poverty line. This would move those receiving income over the low-income cut-off but leave the very poor much worse off. Low-income would be seen to be falling, however. This illustrates the fact that the proportion of the population falling below a low-income line is at best a partial measure. It tells us nothing about the depth of low income or whether the economic position of those in low income is deteriorating or improving through time.

The low-income gap is a measure of the depth of low income. It is the difference between the LICO and the average income of low-income individuals and families. This gap narrowed significantly over the 1980s; it was at $6,400 in 1989, falling from $7,100 in 1981, both cyclical peaks. Picot et al.

CHART 10

Average Low-Income Gap, All Individuals and Families ($1997)



Source: Statistics Canada (1997a)

(2001) show that this improvement was largely driven by increases in social transfer payments received by families over this period, and was registered in spite of falling earnings among low-income families. The low-income gap widened during the recession of 1991-92, as one might expect, but, surprisingly, continued to widen until 1997, in spite of substantial economic growth later in the decade (Chart 10). Picot et al. (2001) examined the low-income rate and gap over the 1988-98 period among the population aged 18-64. They found that the average family income of low-income families was 30.8 percent below the after-tax LICO in 1988 and 33.6 percent below in 1998 — the gap widened continuously through to 1998 in spite of substantial economic recovery. This increase in the size of the gap stemmed from changes both in the benefits that low-income families receive from the transfer system and in the employment earnings of low-income families.

Of the increase in the low-income gap between 1988 and 1998, approximately 60 percent was due to declines in employment earnings and 40 percent to changes in benefits received from the transfer system. The transfer system often has a greater influence on the low-income gap than the low-income rate, since transfers are frequently targeted at families well below the LICO. The benefits received may improve a family's financial position but not necessarily move it over the low-income threshold. The widening of the low-income gap during the 1990s was most evident in Alberta and, in that case, was related primarily to changes in the social transfer payments received by low-income families.

Persistence of Low Income

Information on the duration of low income did not come to light until the 1990s, with the advent of surveys like the Survey of Labour and Income Dynamics (SLID) and the Longitudinal Administrative Database (LAD), both of which follow panels of people over time. It is now clear that a large group of Canadians regularly move in and out of low income, while a much smaller proportion are stuck in this situation over several years. According to research using SLID, in the six years from 1993 to 1998 just under one in four Canadians (24.2 percent) experienced low income at least once, double the rate of low income in the single year of 1998. Of the group experiencing low income at least once, about half (12.8 percent) spent "only" one or two years in low income, the other half spent a more significant period — three to six years. Just over 5 percent of Canadians, or one in 20, spent either five or all six years of the 1993-98 period in low income (Statistics Canada 1998, Table 8.2). About 8 percent spent four years in low income during that period (Morissette and Zhang 2001). Data from the SLID would seem to suggest that at any given point from 5 to 8 percent of Canadians are experiencing a persistent spell of low income.

Finnie (2000), using LAD, found similar patterns. Examining the years 1992-96, Finnie found that 26.4 percent of the population were in low income at some point and 6.9 percent of the population were in low income for all of the five years.

Hence, approximately 6 to 8 percent of the population were, during the mid- to late 1990s, persistently in low income. This persistence was much stronger among certain groups. Morissette and Zhang (2001) found that the group in low income for at least four of the six years was proportionately above average for persons in single-parent families (28 percent), unattached persons (22 percent), persons with work limitations (15 percent), persons from visible minorities (11 percent), recent immigrants (10 percent) and persons with less than a high-school education (9 percent).

The duration of low income, as opposed to the share of the population in persistent low income during a given period, is another matter. To address this issue, one must focus on new spells of low income starting in, say, 1994 or 1995. Morissette and Zhang (2001) found that of these new spells, approximately 50 to 60 percent lasted one year or less and 30 to 35 percent three years or more. Hence most new spells of low income are relatively short. Of all the people entering low income in any given year, the majority will spend one or two years at most in low income. However, perhaps one third of those people will be in low income on a persistent basis.

Some recent work has focused on the factors behind the movement of children into and out of low income. Picot et al. (1999) found that family formation events such as marriage and divorce are significant determinants of the movement in or out of low income, although labour market events such as unemployment or a change in the number of earners in a family tend to dominate. Finnie (2000) found that becoming a single parent and leaving home as a young adult were strongly associated with entry into low income. Likewise, becoming attached has been found to be associated with leaving low income, for both single parents and other unattached individuals.

SUMMARY

The major distributional changes in the 1990s were:

> inequality of individual earnings: no increase overall, but important increases among men;
> inequality of family earnings: an increase as the proportion of single-parent families grew and "like married like" more often;
> inequality of family disposable income: little change over the period 1970s to mid-1990s, as the tax/transfer system served to mitigate the polarization of family earnings; evidence of an increase at the end of the 1990s;
> real earnings of young men: continued decline up to 1996, followed by modest recovery between 1996 and 2000 as the economy strengthened;
> real weekly wages of university educated 20 to 34-year-olds: recent rise;
> labour-market outcomes: significant improvement for women, general deterioration for men;

- rate of low income: higher than in the 1980s;
- depth of low income: a deterioration (on average), even during the strong economic recovery up to 1998, following substantial improvement in the 1980s.

CONCLUSION

Inequality arose as a prominent issue in the mid-1980s and has remained near the top of the list of policy issues ever since. Researchers noted that earnings inequality was rising in the late 1970 and the 1980s, after years without changing. In some countries, family income inequality followed suit, but not in Canada. Earnings inequality among men continued its upward path in the 1990s in Canada, but when all workers are considered, there is little evidence of a rapid rise such as that observed in the 1980s. However, family earnings inequality did continue its upward march during the 1990s. There remains substantial uncertainty regarding the cause of this rise in inequality. While skill-biased technological change is the most frequent explanation, there are reasons to believe that numerous other factors are involved. There are many dimensions to the earnings inequality story, such as shifting relative wages among groups (young and old, less and more highly educated, men and women, etc.) as well as changing inequality within groups. It seems unlikely that one single explanation such as technological change can account for all of these underlying trends. Shifts in the characteristics of workers, notably rising educational attainment, are likely to play a substantial role, as are changes in family formation patterns and institutional factors such as unionization rates, minimum wages, EI and social assistance.

One of the most striking outcomes of the 1990s labour market is the improved situation of women and deteriorated situation of men. It is likely that these results are associated with improvements in the educational attainment of women, and changes in the types of fields they study and occupations they enter, but much remains unknown regarding these outcomes. In spite of the shift to the knowledge-based economy, it has been known for some time that there has not been an increase in the relative earnings and likelihood of employment among more highly educated workers in Canada, except perhaps among the younger cohorts. More highly educated workers do show higher earnings and a greater likelihood of being employed than less educated workers, but no more so than they used to. Research suggests that the rapid increase in the supply of highly educated workers in Canada offset an increase in the demand for their labour. This may be not be the case for recent young cohorts who have seen a relative rise in earnings.

The earnings of young males have fallen in Canada. Research suggests that this drop may reflect a downward shift in the age-earnings profile of recent cohorts of workforce entrants. While some improvement in the earning position of young men was observed during the rapid expansion of the very late 1990s, this did not offset the earlier declines. The causes of this deterioration are not well understood. The drop could relate to the declining relative education position of young men, abnormally low hiring rates during the 1990s in Canadian companies (weak labour demand) or, possibly, declining rates of unionization among younger workers.

Families at the bottom of the income distribution continued to be negatively affected by poor labour-market outcomes throughout the 1990s, as they had throughout the 1980s. Employment earnings among poorer families declined in both decades, continuing to fall even during the 1996-98 expansion. There has been considerable debate regarding the extent to which the earnings declines in the 1980s were related to rising social assistance benefits. Clearly, there is a "work disincentive effect" associated with rising benefits, but what is its magnitude? For some groups, such as single mothers, who have a strong incentive to remain at home and unemployed if there is some other source of income, the effect could be significant. For others it is unclear.

During the 1990s, social assistance and EI benefits were being reduced in most provinces. In many cases, employment earnings and social assistance benefits were falling together. Hence it seems unlikely that the general fall in earnings could be attributed to a work disincentive effect during the 1990s. If anything, the disincentive would have been declining. Other factors related to the rise in family earnings inequality are likely behind the decline in earnings. The difference between the 1980s and 1990s for these families is that rising transfer payments offset earnings losses in the 1980s but not in the 1990s. Hence both the proportion of people in low income and the depth of low income increased in the mid- and late 1990s. This story does not hold for seniors, since for this group low-income conditions have more to do with pensions and transfers than employment earnings. Low income among seniors remained relatively low (by international standards) in Canada during the 1990s.

NOTES

1 Adult-equivalent adjustment is a method for adjusting family income to account for family size and the economies of scale associated with larger families. The data in Table 1 are adult-equivalent adjusted and those in Chart 1 are not. If family size is changing over time, it is desirable to adult-equivalent adjust the results. Regarding data sources, in Table 1 the data come only from the Survey of Consumer Finances (SCF), which was discontinued after data year 1998. In Chart 1, data up to 1995 are from the SCF, while those from 1996 to 1998 are from the Survey of Labour and Income Dynamics.

2 A consistent series for wages up to 2000 is not yet available. For the indices in Charts 2, 3 and 6 we use SCF data up to 1997, then estimate expected growth in the wage series from 1997 to 2000 using Labour Force Survey (LFS) data.

3 This is a *relative* low-income measure, since the cut-off is set relative to the median family income in any given country. Hence, poorer countries will have lower LICOs than richer ones. The notion here is that low income among countries is a relative concept. What constitutes dire financial straits depends upon the norms of the community (in this case country) in which one is living (see Smeeding, O'Higgins and Rainwater 1990 for a discussion). Family income typically is adult-equivalent adjusted to account for differences in family size and the economies of scale that are associated with larger families.

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Are the Kids All Right? Intergenerational Mobility and Child Well-Being in Canada

Miles Corak

INTRODUCTION

During the 1990s Canadians, through their governments, set at least three goals for themselves with respect to the conduct of economic and social policies. As the decade came to an end it became apparent that two of these goals, those associated with macroeconomic policy, were achieved and that in a sense the results exceeded expectations. These goals had to do with a zero inflation target as a guide for the conduct of monetary policy, and the elimination of budget deficits as a guide for fiscal policy.: Fortin as well as Jenkins and O'Reilly, in this volume, each outline the reasons for targeting monetary policy to zero inflation, an objective that was attained — it is fair to say — at a speed that surprised many observers. This goal was maintained throughout the 1990s, and it appears from the discussion in Jenkins and O'Reilly that it will continue to guide monetary policy. Likewise, Drummond and Stanford discuss the elimination of budget deficits as a goal of fiscal policies. On this front progress was more difficult, but the goal was pursued with deliberation by both the federal and provincial governments to the point that Canadians are now faced with the challenge of deciding how to use substantial surpluses. A good deal of attention has certainly been paid to these two dimensions of macroeconomic policy and success in achieving the stated goals, but as the 1990s came to a close increasing attention was also focused on the third explicitly stated societal goal: the elimination of "child poverty."

The Canadian Parliament pledged in late 1989 to "seek to achieve the goal of eliminating poverty among children by the year 2000." Developments since that time have led many commentators to suggest that success has been scant. Indeed UNICEF (2000*a*) documents the fact that in this regard Canada ranks in the bottom third of advanced nations. In response, others have raised concerns about how "poverty" is measured, questioning the use of a relative measure as the appropriate yardstick and offering alternative absolute measures that would lower the rate of poverty considerably. And indeed even Statistics Canada has felt compelled to clarify its position on the matter in response to this discussion (Fellegi 2000).

All this is to say that, regardless of one's position on the issue, "child poverty" clearly has a strong resonance in public discourse. Why? Why should we care about children in low income more than any other group in low income? There are two possible responses to this question. Unlike the targets set for monetary and fiscal policy, the goal of eliminating child poverty has more than an instrumental value. Policy-makers have argued for zero inflation or balanced budgets not as objectives for their own sake but as means to a better-functioning economy. Attaining these goals, it is argued, in a sense permits other things to happen, things that will ultimately increase the welfare of Canadians: higher productivity growth, higher standards of living, more social spending, more disposable income. The elimination of child poverty, however, is both ends and means: an end in and of itself and a means to a better future. Children, as Osberg discusses in this volume, have certain rights as citizens, rights wrapped up with the importance of the family. As such, they have, like other citizens, a right to an adequate standard of living. Canadians care about child poverty because they care about children as citizens, particularly as they are a vulnerable group dependent upon others for their sustenance and welfare. That being said, "child poverty" also has a particular resonance for instrumental reasons. It has been suggested that we should think of its elimination as an investment in the future, in much the way we think of eliminating inflation or budget deficits as a means to an end: in the long run the productivity of the economy and the well-being of all citizens will be improved. UNICEF (2000*b*), for example, clearly articulates this view. The argument is that if children are raised in a state of low income there will be long-term consequences: they will become less than they otherwise could be, indeed may grow up to be poor adults who in turn raise poor children. This is all the more important in that human and social capital are increasingly being seen as the basis for rising productivity and growth in what many are calling the "knowledge based" economies of the future.

It is this second argument that is the focus of this article: Just what do we know about the long-term consequences of childhood experiences? In particular just what is the relationship between family background, especially family income, and the long-term outcomes of children? And how has this relationship changed over the course of the last couple of decades? These are issues that have to do with intergenerational mobility. In a society characterized by a high degree of mobility, the experience of low income during childhood may not necessarily leave a scar, preordaining individuals to low income as adults or to less engagement in society. In a society with a low degree of intergenerational mobility, this is not the case: where one is going is closely linked to where one has been; many people may be unable to participate as full members of such a society simply because they were raised in a low-income household. In the former case we may be more confident in letting the market be the main institution determining income outcomes, because these outcomes are the result of one's own abilities and energies; in the latter case circumstances of birth determine our position in life and we might be less inclined, as Roemer (1998) suggests, to accept the result as fair and might call on the state to level the playing field and buffer individuals from the market.

It is important for us to understand the xtent of intergenerational mobility and the nechanisms that bring it about, because it is elated to a host of policy issues. Education olicy, early childhood investment, access to ealth care and immigration policy are all notivated by this issue. The discussion in his article relates most directly to the financng of post-secondary education, which is ften concerned with the possibility that apable students will be denied access to coleges and universities because of financial onsiderations. It also relates to the impact f early childhood experiences on an individual's cognitive and social development, and ow these influence education and labour-narket outcomes.

I will first review a simple framework or intergenerational mobility as it pertains o the relationship between parent and child incomes, then discuss how this framework permits one to think about changes in degree of mobility. In addition I will summarize the state of our knowledge in this area and Canada's position relative to other advanced nations, address the sources of a given degree of equality of opportunity, and summarize our knowledge on one particularly important source: early childhood experiences. All this in the hope of answering the question of how much we really know about the long-term consequences of experiencing straitened circumstances as a child.

In summary, the major conclusions of this article are: (1) Canadian society is characterized by a good deal of intergenerational mobility; in fact the available evidence suggests that being raised by low-income parents does not pre-ordain children to a low-income adulthood; (2) there is no strong evidence suggesting that able Canadian youths are limited in their access to post-secondary education by the financial situation of their parents, though this situation may be changing; (3) early childhood experiences are increasingly being seen as important precursors to long-term outcomes, but researchers have had difficulty in making a strong link between these non-monetary investments and family income levels. On the basis of the available evidence, policy advocates may be hard-pressed to suggest that the elimination of low income among children is a means to a more productive economy. It may be that governments will increasingly be drawn into discussions of how to provide in-kind transfers to large groups of families across the income distribution, rather than simply making income transfers to the least well off. If this is the case, it should be realized that although large-scale early intervention programs seem to offer a host of short-term benefits to children, their influence on long-term labour-market outcomes remains to be demonstrated. It may well be that the best argument for the elimination of low income among children, or for the provision of early intervention programs, is that they are the right thing to do for their own sake.

MEASURING INTERGENERATIONAL MOBILITY

Imagine two societies with the same distribution of income: the fraction of low-income families and the fraction of high-income families — however these terms are defined — are exactly the same, as are any other measures of inequality that one could devise.[1] Imagine that in the first society individuals inherit their *relative* economic position entirely from their parents: children born to parents at the very bottom of the income distribution will grow up to be adults at the very bottom of the income distribution; those born to parents at the top will go on to have incomes placing them at the top. In this society there is no intergenerational income mobility. Knowing the parents' place in the income distribution allows one to exactly predict the position the children will occupy in the next generation's income distribution. Imagine that in the second society there is no relationship between family background and the adult outcomes of children. Those born to parents at the bottom of the income distribution are as likely to end up at the bottom as those born to parents at the top, or for that matter are as likely to end up at the top. In this society there is complete intergenerational income mobility. Knowing the parents' position in the income distribution offers no information about where the children will end up. At any point in time the two societies are equally unequal, but they differ very much in the nature or character of their inequality. These are clearly polar cases, and we would not expect any advanced economy to be at either extreme, but it is certainly important to try to understand where actual societies are situated between the extremes of complete persistence in incomes across generations and complete mobility. This is the first step in any informed discussion about what "equality of opportunity" means and what can and should be done to achieve it.

Economists have used a simple model to measure intergenerational income mobility, usually in percentage (or equivalently) in logarithmic terms — that is, as a measure of the fraction of differences between parents that on average is observed among their adult children. For example, if the incomes of two sets of parents differed by 50 percent and the incomes of their children differ, on average, by 30 percent, the intergenerational persistence of incomes is 0.6, since 60 percent of the difference in parental incomes is transmitted to the children. Equivalently, if we let Y represent permanent income and let t index generations, this way of thinking can be captured by the following simple expression:

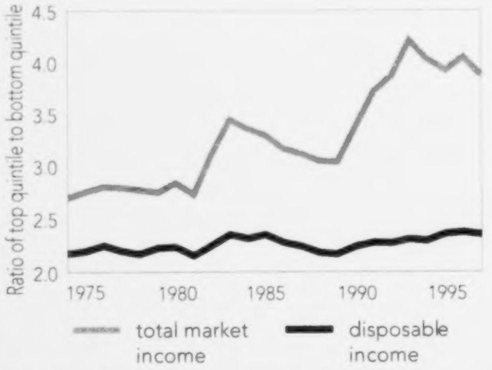
$$lnY_{i,t} = \alpha + \beta\, lnY_{i,t-1} + e_{i,t} \quad (1)$$

In this equation the adult income (in natural logarithms) of family i's child ($lnY_{i,t}$) is expressed as the average adult income of the children of generation t, as given by α, plus two factors determining the deviation from this average: a fraction of parental permanent income ($\beta lnY_{i,t-1}$) and other influences not associated with parental income ($e_{i,t}$).

The average income of the generations will evolve over time, and it may be that many or all members of a generation will have incomes greater than their parents had at a similar age. This is captured in equation (1) by the value of α. However, and more importantly, the equation captures the idea that an individual's ranking in the income distribution is nonetheless related to the ranking of his or her parents a generation earlier. This is captured by the value of β, which represents the fraction of income transmitted across generations. It is a measure of the degree of intergenerational income mobility and is sometimes referred to as the intergenerational elasticity of income. β could conceivably be any real number. A positive value would indicate intergenerational persistence of incomes in which higher relative parental income is associated with higher relative child incomes; a negative value would indicate intergenerational reversal of incomes in which relatively higher parental income is associated with relatively lower child incomes. Empirical studies, however, have always found ß to lie between the values of zero and one. A value of one would indicate complete intergenerational persistence of incomes, a value of zero complete intergenerational mobility. If, as above, 60 percent of the difference in parental incomes were passed on to the children, ß would have the value of 0.6. When ß is less than one there is some intergenerational mobility of incomes, so that parents with incomes above (or below) the average will have children who grow up to have incomes above (or below) the average, but the deviation from the average will not be as great in the children's generation. This should not be too surprising in developed economies, but the larger the ß (even if it is less than one) the greater the likelihood that a child will inhabit the same relative position in the income distribution as his or her parents — that is, the greater the persistence in intergenerational incomes.

CHART 1

Ratio of Incomes for Families at the Top Quintile to Those at the Bottom Quintile: Total Market Income and Disposable Income, 1974-97



Note: Market income is defined as total income less government transfers and includes earnings from employment and self-employment, investment income and other private income. Disposable income refers to total income after taxes and transfers. All incomes are for economic families with at least one child aged 0 to 17 years.

Source: Statistics Canada, Survey of Consumer Finances.

To understand the degree and evolution of intergenerational income advantage, one must first understand two things: how income inequality is evolving in successive generations of parents (that is, just how much of a relative income advantage parents are passing on to their children), and how the degree of intergenerational income mobility (as measured by ß) has evolved. Depending on the degree of inequality, even small values of ß can confer substantial advantages to the children of the well off. There are established statistics on the degree of inequality in Canada. Overall patterns are discussed by Heisz, Jackson and Picot in this volume, but Chart 1 charts developments in one of these: the ratio of incomes (both total market income and disposable income after taxes and transfers) for families with children at the lower boundary of the top quintile to those at the upper boundary of the bottom quintile. For example, in Canada during the late 1970s the market income of families in the top fifth of the income distribution was about 2.75 times as great as the average market income of those in the bottom fifth.[2] If this ratio is used in combination with equation (1), the income of someone born to a family at the top relative to someone born to a family at the bottom for different values of ß is[3]:

β	0.1	0.2	0.3	0.4	0.5	0.6
Income Advantage	1.11	1.22	1.35	1.50	1.66	1.83

With a β as high as 0.6, children born to higher-income parents will earn, when no other influences are at work (that is, when $e_{i,t} = 0$), about 1.8 times as much as children born to lower-income parents; however, with a β as low as 0.1, the income advantage passed on to the children is about 10 percent. An income advantage of 10 percent is no small matter, but it pales in comparison with the fact that the higher-income families started off earning 2.75 times the incomes of the lower-income families, and implies that there will be virtually no association between the incomes of grandparents and their grandchildren.[4]

A decade later this measure of inequality would stand at just over 3.0, and by the mid-to late 1990s it would hover around 4.0. A ratio of 4.0 would imply, to redo the earlier calculations, the following income advantages for various values of β:

β	0.1	0.2	0.3	0.4	0.5	0.6
Income Advantage	1.15	1.32	1.52	1.74	2.00	2.30

With a β of 0.1, the income advantage would not have changed much between the late 1970s and the late 1990s (from 11 to 15 percent), but higher values would imply significant differences. In the 1990s children from higher-income families could expect to earn 2.3 times (rather than 1.8 times) as much as children from lower-income families if β were 0.6. The basic message from this discussion is that there was more inequality in family incomes during the 1990s than two decades earlier, which implies that the income advantage to being born to a well-off family is increasing.

The counterpoint to this is that the tax and transfer system has worked to blunt the evolution in market incomes, with the result that the disposable incomes of families have not followed the same pattern. This is an established fact in the Canadian literature, and the bottom line in Chart 1 presents another illustration by charting the ratio of disposable incomes of families at the top quintile to those at the bottom. This ratio, at least up to 1997, has never fallen below 2.0 nor risen above 2.5. In and of itself this fact would suggest that government tax/transfer policies work to attenuate the intergenerational transmission of economic status. However, this assumes that income is perfectly fungible and that there are no intergenerational consequences associated with its source. Some have challenged this assumption. There is, for example, a longstanding debate in the United States over the impact of welfare receipt by parents on the achievements of their children and ultimately on the way in which these children subsequently rely on market versus non-market sources of income.[5] In the Canadian context, Lefebvre and Merrigan (1998), Corak and Heisz (1998), and Corak, Gustafsson and Österberg (2001) all suggest that the way in which parents obtain their income can have consequences for the long-term labour-market prospects of their children. A complete assessment of a strategy relying solely on income transfers would need information of this sort, in order to fully appreciate the intergenerational consequences.

However, the extent to which the income advantage of coming from a well-to-do family has changed also depends on the degree of intergenerational mobility in incomes, and our understanding of this mobility is just beginning to be developed. An extensive literature has been written on

TABLE 1

Intergenerational Income Elasticities for Canadian Children

	Sons		Daughters	
	Father	Both Parents	Father	Both Parents
Market Income	0.262	0.235	0.227	0.208
Earnings	0.258	0.214	0.203	0.180

Note: Table entries are coefficient estimates from the least squares estimation of equation (1). Age and Age squared of both the child and the parent (or oldest parent) are also included in the regressions. Sample sizes vary but range from about 230,000 to over 400,000 with standard errors of about 0.003 to 0.004.

Source: Derivations by the author using Statistics Canada administrative data. Parental incomes are averaged over 1978 to 1982. Child incomes are measured during 1998 between the ages of 32 and 35.

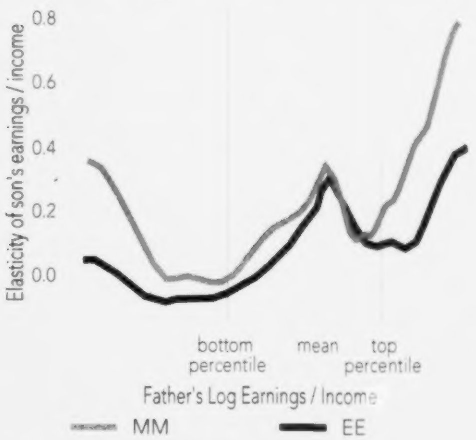
this topic in a number of countries, and in Canada there are now three studies explicitly addressing the issue: Corak and Heisz (1995, 1999) and Fortin and Lefebvre (1998). These studies use very different data sets and methods but essentially reach the same conclusion: a good approximation of ß would be 0.2, depending on how samples are chosen and how technical issues associated with the estimation are resolved. Corak and Heisz (1999, Table 3) examine the relationship between father and son outcomes, and find that the intergenerational elasticities for earnings as well market incomes are about 0.23. Fortin and Lefebvre report a number of different estimates, including father-daughter estimates, but these are also approximately 0.2.[6] In addition they offer some evidence that the intergenerational elasticity has decreased over the course of the post-war period, being highest for a cohort born between 1935 and 1945, at about 0.32 (father-son) and 0.27 (father-daughter), and falling to 0.16 and 0.19 for those born between 1955 and 1969 (Fortin and Lefebvre 1998, Table 4.4). However, their results also suggest that there were no discernible changes in ß between the mid-1980s and the mid-1990s (Fortin and Lefebvre 1998, Table 4.3).

Table 1 updates and extends some of the estimates offered by these studies. The market incomes and the earnings of both sons and daughters are compared with the market incomes and earnings of fathers and of both parents.[7] Using information from both parents might more accurately represent the total resources available to a family, and hence result in an improvement on the earlier findings. It also has the advantage of including lone mothers and their children in the analysis. Parental incomes are measured for the late 1970s and early 1980s when the children were teenagers, for the most part during their high school years but before graduation. These variations do not change the main conclusions very much: intergenerational elasticities tend to be lower when both paternal and maternal incomes are taken into account than when only the father's income is used; they tend to be a bit lower for daughters than for sons; but most importantly they are all in the neighbourhood of 0.2.

This result would indicate that there is a high degree of intergenerational mobility in Canada, with about a fifth to a quarter of the relative income difference between parents at various points in the income distribution being passed on to their children. This would place Canada in a relatively favourable position internationally. A good deal of work was done on this topic in the 1990s, as surveyed by Björklund and Jäntti (2000), Solon (1999) and Mulligan (1997, Chapter 7). The general finding from this literature is that the most mobile advanced

CHART 2

Elasticity of Son's Earnings and Total Market Income with Respect to Father's Earnings and Total Market Income



Note: The line labelled MM refers to the elasticity between the total market incomes of sons and fathers. The line EE refers to the elasticity between father and son earnings. Father's earnings and income are measured in natural logarithms and adjusted for age, the vertical lines representing the 1st and 99th percentiles of the father's age-adjusted log total market income.

Source: Adapted from Corak and Heisz (1999, Figure 4).

economies have a β of 0.2. This would, for example, put Canada in the same group as Sweden and Finland (Solon 1999, p. 1787). The least mobile countries are the United States and the United Kingdom. In both of these countries a consensus seems to be emerging that β is in the neighbourhood of 0.4 and may be as high as 0.6 (Solon 1999, p. 1784-1785). In fact, recent work using improved data suggests that 0.6 or even higher is a more accurate estimate for the United States (Mazumder 2000).

International comparisons are hindered by differences in concepts, data quality and statistical technique. Generally, low rates of inequality go hand-in-hand with low rates of low income among children and a high degree of intergenerational mobility, while countries with high rates of both inequality and low income among children also appear to have less intergenerational income mobility. For example, in Sweden and Finland the intergenerational elasticity has been estimated at 0.2 and the low-income rate among children is one of the lowest; in Germany the intergenerational elasticity is between 0.3 and 0.4 and its low-income rate among children ranks it in the middle internationally; and the United States and the United Kingdom have the least intergenerational mobility and the highest rates of low income among children (UNICEF 2000a, Figure 10). Canada seems to rank with the United States and the United Kingdom in having relatively high rates of low income among children, but with the Scandinavian countries in having a high degree of intergenerational mobility. This anomaly may be due to the use of a relative measure of low income in making international rankings. In fact, according to UNICEF (2000a, Figure 2 and p. 9) Canada fares much better in international rankings when an absolute measure of poverty is used, while the change in concept makes little difference for other industrialized countries. For example, using the US official poverty line as a measuring rod places Canada just behind Sweden and Finland and in the top half of countries with the lowest rates of child poverty (UNICEF 2000a, Figure 2).

One important limitation of this entire stream of research concerns the simplicity of equation (1). The results from this equation represent an "average" outcome, one value of β characterizing the entire income distribution. The policy focus on families in low income, however, reveals a concern that the pattern of intergenerational mobility may change across the income distribution: those with lower incomes may not have the same opportunities to invest in their children as middle- and upper-income groups and therefore are more likely to see them end up in the bottom of the income distribution. If a more flexible estimation technique is used, one that permits the value of ß to change across the income distribution, a very different picture emerges.

Chart 2 illustrates that the degree of intergenerational income mobility in Canada is in fact characterized by a complex non-linear pattern. The two lines in this figure are the estimates for ß using the total market incomes of fathers and sons (the line labelled MM) and the earnings of fathers and sons (EE). The two vertical lines represent the bottom 1 percent and the top 1 percent of the fathers' total market income distribution. In this particular data set there may be problems with the quality of the data at the very bottom of the income distribution, implying that the results to the left of the first vertical line might be best ignored. At the broadest level the degree of persistence in intergenerational incomes increases with higher incomes, starting at almost complete mobility (ß about equal to zero) at the lower end of the distribution and reaching, in the case of market incomes, almost complete immobility (ß being almost 0.8). Also notable is an inverted V pattern, with ß rising over the lower half of the income distribution, reaching almost 0.4 at the middle and then falling over the upper half. This pattern might not conform to the expectations of many in suggesting that children born in the lower part of the income distribution are among the most mobile intergenerationally.[8] It also suggests that characterizing the underlying process with a single number, like 0.2, may not be accurate. For a significant fraction of individuals the intergenerational elasticity is decidedly above 0.2.

SOURCES OF INTERGENERATIONAL MOBILITY

How can we explain the patterns of intergenerational mobility observed in Canada? Equation (1) offers a simple summary of the outcome of what is likely a complicated social process involving the workings of the market, government policies and social institutions. But the starting point of almost any discussion involves the family.

Families can influence the eventual incomes of children in two broad ways: directly through bequests of wealth, and indirectly through investments to improve their earning capacity. Inheritances and *inter vivos* transfers are means of transmitting economic status that come readily to mind, but just how important are they? Although there is little direct evidence, some information can be gleaned from Chart 2. If direct transfers are the main determinant of intergenerational income mobility, market incomes will be a lot more persistent intergenerationally than earnings. Total market income includes income from not only earnings but also assets (dividends, income from rental properties, capital gains or interest income). If parents transfer assets directly to their children there will be a strong intergenerational correlation in the components of income derived from them, and this will raise the overall correlation of total market income between the generations above that for just earnings. Table 1 suggests that this is the case on average. Chart 2 reveals that market incomes tend in fact to be more persistent than earnings across generations, particularly among the very well off. The value of ß for total market income tends to lie above that for just earnings, and diverges sharply from it for those in the very top — essentially the top percentile — of the income distribution.[9] If the differences between these two lines can be taken as an indication of the role of asset income, the message that emerges is that financial transfers are an important part of the explanation for the very high degree of intergenerational persistence of incomes for a distinct minority of the population, those who are very well off. (In fact, at the very extreme the results imply that the children of the well-to-do are virtually certain to end up at the top of the income distribution.) For the majority of people, the pattern of intergenerational income mobility seems to be driven by the degree of intergenerational mobility of earnings.[10] Something more than inheritances is involved.

The other way in which families influence the adult economic status of their children is through investments (both monetary and non-monetary) in their ability to succeed in the labour market. In many economic models, education — or human capital investment — is the major vehicle. The models discussed by Becker (1991), Becker and Tomes (1986), and Mulligan (1997), among others, view parents as rational individuals who care not only about the welfare of the family at present but also about the future welfare of their children. The investments they make in the human capital of their children is determined by the expected rate of return on such investments and the resources they have to make them.

In these models, if the expected rate of return on human capital investments is greater than that for financial assets, then parents wishing to increase the adult incomes of their children are better to invest in their education, and only once the possibilities of doing so have been exhausted (or until the rate of return to human capital falls to the level of that for financial assets) to leave bequests or directly pass on assets. The expected rate of return may vary with the ability/predisposition of the child, but whether a child receives the optimal amount of human capital investment will also depend on the resources available to the parents. Parents may not have the income to invest as much in the schooling of their child as they would like, particularly in the case of low-income parents of high-ability children. Such parents are unlikely to be able to borrow the needed funds from financial institutions. These children will be less intergenerationally mobile than those with equal ability but born to parents of sufficient means. The possibility that access to higher education will be limited by the financial resources of the family motivates a host of government policies. Loans, bursaries and low tuition fees have all been used by governments to lessen the possibility that capable children will be unable to attend post-secondary institutions because of income adequacy.

This model of the family might be used to explain the pattern observed in Chart 2 if it is assumed, as Grawe (2000) does, that the child's "ability" varies with parental income: the higher the income of the parent, the greater (to a certain point) the ability of the average child.[11] Over the lower half of the

TABLE 2

Distribution of University Graduates by Parental Educational Attainment: 1982, 1986, 1990, 1995

	Educational Credentials of Most Educated Parent			
	Less than Secondary	Secondary	College	University
Sons				
1982	29.6	31.8	10.0	28.7
1986	24.4	32.0	10.8	32.8
1990	22.2	29.1	12.4	36.3
1995	14.8	31.2	12.9	41.1
Daughters				
1982	27.5	30.3	13.6	28.6
1986	25.4	32.7	12.5	29.4
1990	23.6	27.3	14.4	34.6
1995	15.9	32.8	13.7	37.6

Note: Table entries are row percentages.

Source: Calculations by author from Statistics Canada, National Graduates Survey, various years.

income distribution, ß is rising not only because parental income is rather low but also because child ability (and hence the optimal amount of human capital investment) is increasing. As a result, a larger and larger fraction of families are unable to make sufficient investments in the schooling of their children. Over the upper half of the income distribution the elasticity is falling because parental income gradually becomes high enough to finance post-secondary education. Regardless of the child's ability, there are sufficient resources to fund the desired level of schooling. As income increases even further, parents have made all the needed investments in their children's education and begin to make financial transfers directly to them. This is reflected in the sharp rise of intergenerational income elasticity and its divergence from intergenerational earnings elasticity.

How plausible is this story? The model does make two important points. The first, and most obvious, is that government policies influencing access to education may have implications for intergenerational mobility. Such policies may have played a part in the rise of the average degree of intergenerational mobility over the post-war period documented by Fortin and Lefebvre (1998). As mentioned, the generation (of men) born between 1935 and 1945 is characterized by a ß of 0.32. This generation was of college/university age during the 1950s and early 1960s before the significant expansion of post-secondary education in Canada. Those born two decades later (between 1955 and 1969), who were the prime beneficiaries of this expansion and the loan/bursary programs that went along with it, are characterized by a ß of half this value.[12] The second half of the 1990s witnessed significant changes in the financing of post-secondary education, some of which implied a higher tuition fee environment. The potential impact on intergenerational mobility, especially if the trend towards more mobility is halted or even reversed, is an important concern. At this point, however, it is too early to tell what, if any, impact these changes will have.

Surprising as it may seem, there is little direct evidence on whether capable Canadian youths are being denied access to post-secondary education due to a lack of financial resources. Some studies, however, have related educational attainment with the parental characteristics of socio-economic status and education level. For example, Bouchard and Zhao (2000) find that the gap in university participation rates between children from high socio-economic levels and those from low and middle levels widened between 1986 and 1994. They relate this to substantial increases in tuition fees beginning around 1989. Table 2 offers related information, the distribution of university graduates by the educational attainment of their parents (the most highly educated parent), for selected years between 1982 and 1995.

For example, about 30 percent of the 1982 male graduating class had parents with less than secondary school education, while approximately the same fraction had parents with university degrees. By 1995 these proportions were, respectively, about 15 and 40 percent; far fewer university graduates had parents with the lowest levels of education, and many more had parents with the highest levels. The proportions for women are not much different. This can be partly explained by the fact that the population is becoming more educated in general, so that more and more people have a post-secondary degree to begin with. Canadian data that permit a direct comparison of post-secondary participation and parental income — as opposed to education or socio-economic status — are rare. Thus it is hard to directly determine whether financial difficulties limit educational attainment. Heckman (2000), however, interprets US research as implying that financial constraints are not the major reason why children from low-income families attend post-secondary institutions at much lower rates than children from high-income families. He claims that given "the current college financial support arrangements that are available to low income and minority children in the US, the phenomenon of bright students being denied access to college because of credit constraints is an empirically unimportant phenomenon" (p. 17). This is not to deny that children from low-income families attend post-secondary institutions at a much lower rate, only to deny that the difference in attendance rates is due to the difficulty in financing a post-secondary education. It is difficult to know the extent to which this research applies to "average" students as opposed to just "bright" students. It is also hard to know the extent to which it can be applied to Canada. The impression of many observers is that tuition fees are certainly no higher in Canada than in the United States, and financial support no less generous.

An alternative explanation relates to the second, perhaps more subtle, point made by the human capital interpretation of Chart 2, namely that "other" things also determine children's education levels and ultimate earnings capacity. Up to now, this has been referred to as "ability," under the assumption that it is somehow an inherent quality uninfluenced by family, though somehow — perhaps paradoxically — varying with family income. Certainly something more than just monetary investments matter in determining a child's ultimate well-being. Whether children go on to pursue post-secondary studies depends upon their level of preparedness during their high school years, which in turn relates to their level of preparedness in elementary school. The correlation between parent and child education levels may have less to do with accessibility to post-secondary education than with the fact that parents have different expectations concerning their children's schooling and labour-market success and are able to make different non-monetary investments to achieve them. Heckman (2000), among others, suggests that parents who are more educated may have access to not only more financial resources to, but also other resources that will put their children on a path to better school performance early on. This increases their likelihood of attend-ing university and, ultimately, of taking advantage of a changing labour market that places a premium on skills:

> *Children's tastes for education and their expectations about their life chances are shaped by those of their parents. Educated parents are better able to develop scholastic aptitude in their children by assisting and directing their studies. The influence of family factors that are present from birth through adolescence accumulate over many years to produce ability and college readiness. (Heckman 2000, page 15)*

The point is that "ability" is something that can be instilled, and should be instilled early on because ability begets ability. Indeed, observers are increasingly making the case that early — indeed very early — childhood influences are central to long-term labour-market success:

FAMILY INFLUENCES IN EARLY CHILDHOOD AND PUBLIC POLICY

The most forceful argument along these lines in a Canadian context is that put forward by Keating and Hertzman (1999) and used as the underpinning for a number of policy proposals, most notably by McCain and Mustard (1999). Keating and Hertzman (1999) contains at least five messages: (1) there exist negative relationships (termed "gradients") between socio-economic status and a host of child outcomes (termed "developmental health") such that children with backgrounds that might be deemed inferior are prone to have poorer physical and mental health, more behavioural problems, and lower levels of literacy and numeracy; (2) these relationships are causal, resulting from a process whereby one's capacities are sculpted early in life by one's environment in ways that are long-lasting if not permanent; (3) social organization and policy can influence this process; (4) effective policy interventions, as well as ways of developing the political coalitions to support them, do exist and should be implemented to help children overcome the above disadvantages. The fifth message — one that is overlain by the editors in the introduction, conclusion and a series of commentaries — is that a lot is at stake. In particular, the productivity of our economy is very much dependent upon the right investments being made in our children. Only if the right investments are made will we be flexible enough to meet the challenges and take advantage of the opportunities offered by technical change. Clearly, this is a far-reaching set of claims, extending from some contentious issues in positive science all the way to policy-making. The cornerstone of the story is the argument that the ultimate well-being of children is determined by the socio-economic status of their parents during their early years.

The idea is that the stimulation which infants and young children receive from their environment influences their neural development and will ultimately define the outer limits of their capabilities. Children raised in families at the high end of the socio-economic scale are more likely to be exposed to a stimulating environment and set upon an advantageous path in life with respect to health, cognitive development and social skills. Neural sculpting occurs at different times for different brain functions, but timing is important. If the brain does not receive the requisite environmental stimulation at certain critical periods, the window of opportunity closes and development fails to occur. Interventions at a later time may not reverse the consequences. This process establishes, if you will, the "initial conditions" of a life and sets the individual down a particular pathway, a pathway in which a series of cumulative experiences may set further constraints or present further opportunities. The series of steps that lead through important transitional periods in life, according to Keating and Hertzman (1999), look something like this: socio-economic circumstances early in life (and even during the prenatal period) → birthweight and cognitive/social/emotional development → readiness to learn → language development → behavioural problems in school and educational achievement → mental well-being in adulthood → labour-market success and job characteristics → stress, disability, absenteeism → mortality. Socio-economic gradients appear at each of these steps because they have their roots in early childhood and the individual's cumulative experience up to that point.

This is a hard theory to prove, for the simple reason that the information requirements are very demanding. An analyst would need to observe, in a rather detailed way, the circumstances under which a representative sample of individuals not only are raised as very young children, but function throughout their later childhood and even adulthood. A host of outcomes related to their adult well-being would have to be measured. The measures would include social and economic functioning since the thesis has to do ultimately with the links between investments in children and economic productivity. There is no one single comprehensive data set of this sort available for Canada. Indeed, the closest one could come relates to the information used in developing Chart 2 and Table 1. As Chart 2 suggests, there is no simple negative relationship between parental income (if that is to be taken as a measure of "socio-economic" status) and the adult incomes of children. Indeed it would appear that children born to low-income parents are intergenerationally mobile and unlikely to end up with low incomes. While this finding may be relevant for discussions on the impact of post-secondary education, it may be inappropriate as a test of "biological embedding," since the familial circumstances of the children are observed only once they have reached their teens, not in the early years.

More appropriate data do exist for some countries. The National Child Development Study is an ongoing British survey of all persons born during the first week of March 1958, and the Panel Survey of Income Dynamics is a US longitudinal survey begun in the late 1960s and early 1970s. Both of these, and some more specialized and smaller surveys, are referred to in a number of chapters of Keating and Hertzman (1999). However, the evidence — whether direct or cited from other studies — relating the socio-economic status of children in the first years of life directly with their adult labour-market outcomes is very sparse. This is one of the points emphasized by Brooks-Gunn, Duncan and Britto (1999) in their study of US data.[13]

This is a difficult relationship to establish even in the short term, because causality may not be unidirectional. The quality of parenting may influence child behaviours and outcomes, but it may also be reacting to it. In fact Hou (2001) takes this sort of simultaneity into account in using Canadian data to analyse the quality of parenting and its impact on the emotional and conduct problems of young children. He points out that the role of income in this process can easily be overstated, and is led to conclude that ineffective parenting is independent of family socio-economic status when other mediating factors, such as parental depression, family dysfunction and parental age, are taken into account. Low-income parents, single parents and parents with low levels of education are no more likely than other parents to develop ineffective parenting styles.

While the appropriate policy design to support family functioning is still subject to a good deal of debate, some advocates are suggesting that interventions should not simply address income adequacy nor necessarily target only parents who are socio-economically disadvantaged. Keating and Hertzman (1999) put forward an argument for universal programs of in-kind transfers to young children, with the caveat that attention be paid to the timing of the interventions. This argument is echoed in McCain and Mustard (1999).

The scientific hypothesis being addressed could be consistent with such a wide range of policy options as to be of little guidance in the actual design and implementation of policy. If the basic message from the science is that we should be providing children (especially the youngest) with a loving, secure, yet stimulating environment, it could be used just as easily to support policies encouraging mothers to stay at home as to support the need for high-quality daycare if they choose to work full-time. It is not clear why the options discussed are exclusively related to the underlying theory, or why they would affect economic productivity decades into the future.

Indeed, there is once again a disappointingly small amount of solid evidence on the long-term outcomes of children, particularly labour-market outcomes. The most convincing evidence would involve the use of an experimental design comparing a group of children put through an early childhood intervention program to a control group. The two groups would be followed throughout their school years and into adulthood, and a host of outcomes — particularly those related to labour market — would be measured. Information of this sort is hard to come by, and no large-scale studies have been done in Canada. Currie (2000) offers a survey of the American experience with early childhood intervention programs, paying particular attention to studies that used an experimental design employing randomly determined treatment and control groups.

Currie (2000) points out that some ideal trial programs have indeed had positive long-term results. The program most often cited in this regard is the Perry Preschool Project, which consisted of a half day of preschool every weekday and a 90-minute home visit every week for eight months a year over two years. Evaluation involved a randomized trial that followed the children to the age of 27. There was a total of 120 children, about half in the control group and half in the treatment group. The control group had better health and test scores, as well as better grades, high school graduation rates and earnings. They also had lower crime rates and lower rates for welfare use.

While Currie (2000) stresses that many programs have been studied, the interventions most likely to lead to significant results are the intensive and expensive ones. Aside from the fact that the number of children in the Perry Preschool evaluation was very small, there may be many other reasons for exercising caution in extrapolating its results to the Canadian environment. Given Canada's higher level of social spending and support, particularly in the health domain, changes in early childhood investment will have less impact. Currie also cautions that there may be a significant difference between an ideal pilot project (one that is well-funded and structured) and a large-scale, publicly funded program. Her review of the Head Start program in the United States is a case in point.

Head Start is a preschool program for three- and four-year-old disadvantaged children that promotes readiness to learn. Roughly 800,000 children participate in its part-day programs. In reviewing the evaluations of this intervention, Currie suggests that it has indeed led to short-term improvements in health, verbal skills and perhaps social skills but that these do not necessarily translate into long-term improvements. Initial gains in vocabulary and reading test scores are maintained only if the child goes on to attend a high-quality elementary school; for a child who does not, the advantages tend to fade away. Subsequent school quality plays an important role in sustaining any gains made in the early years. There are no long-term evaluations of this program, following the children into adulthood. Currie concludes that the "evidence in support of favourable long-term effects of public programs is much less conclusive than the evidence showing positive effects of model programs" (Currie 2000, p. 15).

In sum, the non-monetary investments made by parents may have an important role to play in setting their children on a path to labour-market success, and this role may be only loosely related to parental income. However, it is still difficult to gauge the extent to which this relationship, and for that matter government interventions intended to foster or supplement it, lead to labour-market success for these children in adulthood.

CONCLUSIONS

The Canadian labour market is characterized by a good deal of intergenerational income mobility. On average, parental and child incomes are only loosely tied. Indeed Canada compares well internationally in this regard, being characterized by much more mobility than the United States or the United Kingdom and on a par with some of the most mobile nations. However, the relationship between family income and child income is not a simple one. The evidence that does exist suggests that children from low-income families are not destined to become low-income adults: indeed there is little relationship between their parents' position in the income distribution and their own. At the other end of the spectrum, the very well-to-do can virtually guarantee that their children will be among the most advantaged in the next generation, largely because of the transfer of assets across the generations. In between these two extremes the story is more complicated, with intergenerational mobility declining over the course of the lower half of the income distribution and rising over the upper half.

These patterns have been observed for the generation of teenagers coming of age during the 1980s and active in the labour market during the 1990s. It is difficult to say whether there has been a change since that time, but there appears to have been a long-term trend over the post-war period towards increased intergenerational mobility. The causes of these patterns are difficult to establish, but any explanation must include the accessibility of post-secondary education and the influence of non-monetary investments in children made by families and society. The significant expansion of post-secondary institutions and the financial support that assured access to them by generations coming of age in the late 1960s and subsequently are coincident with an increase in intergenerational mobility. There seems to be no direct evidence that access to post-secondary education is limited by financial resources, at least for the generation coming of age in the 1980s. This may have changed with the introduction of higher tuition fees the 1990s, but available Canadian data do not permit determination of whether this is the case or what the consequences for intergenerational mobility might be. It does appear that a significantly larger fraction of recent university graduates have parents who were also university graduates; what is less clear is the degree to which this is due to financial constraints or to a decrease in non-monetary investments among certain segments of the population.

Recent policy discussion has focused on the quality of the environment in which young children are raised and its impact on their development and long-term outcomes. There is still a good deal of uncertainty about how this process plays out, particularly with respect to long-term economic outcomes and the role of family income. Recent research seems to suggest that when other important mediators of parent-child interaction — parental depression, family dysfunction, parental age — are taken into account, income levels have little independent influence on parenting styles or child emotional and conduct problems. Even so, the extent to which short-term disadvantage translates into inferior labour-market outcomes is an open question. Equally unresolved is the effectiveness of government policy. It may be, as Currie (2000) suggests, that early childhood intervention programs can be justified entirely on the basis of their short-term benefits to children, but that would be a very different argument from the one that says they are crucial for the long-term productivity of the economy. Perhaps the best argument that can be made for such programs, and indeed for reducing child poverty, is that they are of benefit to children in the here and now.

NOTES

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1 This paragraph is drawn from Solon (1999, p. 1762).

2 This figure is for economic families with at least one child aged 0 to 17. Market income refers to total income less government transfers and includes earnings from employment and self-employment, investment income and other private income. The information is derived from the *Survey of Consumer Finances* produced by Statistics Canada.

3 These results are derived by taking the antilog of equation (1) so that $Y_{i,t} = exp(\alpha)\, exp(\beta \ln Y_{i,t-1}) = exp(\alpha) Y^{\beta}_{i,t-1}$ if e is ignored. This implies that the ratio of incomes for children from high-income *(H)* and low-income *(L)* backgrounds is just $Y_{H,t} / Y_{L,t} = (Y_{H,t-1} / Y_{L,t-1})^{\beta}$ — that is, just the ratio of their parents' incomes raised to the ß power.

4 In fact, the evolution of the cross-sectional inequality of income over the very long term is related to the value of ß. If ß is greater than or equal to one, inequality will grow in each successive generation; if it is less than one, inequality may fall or may be stable depending upon the evolution of other factors (see Mulligan 1997, p. 164-171). This discussion assumes that ß itself does not change in value.

5 For one recent contribution see Levine and Zimmerman (2000).

6 Father-daughter elasticities are found to be slightly higher than father-son, and in general the estimates tend to increase as the children age, being highest (approaching 0.3) when the children reach their forties and fifties.

7 In deriving these results it is important to compare parents and children when they are at similar points in the life cycle. The regression analysis underlying the results in Table 1 control for the possibility that this may not be the case, by including measures of the age and age squared of the father and child, or of the oldest parent and the child. In addition, parental incomes are averaged over a five-year period in order to approximate permanent income and reduce the bias associated with annual fluctuations in income.

8 One important caveat has to do with the focus on just fathers and sons. The results are based on data that exclude children raised by single mothers, and should in a sense be thought of as representing a best-case scenario. Step families, however, are included in the analysis, so that "father" refers not just to biological fathers.

9 In these data the top percentile of the father's market income is just over $184,000, while the maximum is over $11.3 million. These amounts are expressed in 1999 dollars and are based on the data in Corak and Heisz (1999, Table 1), which are in 1986 dollars.

10 This suggestion seems also be in accord with the literature surveyed by Stokey (1996) for the United States, which deals with direct evidence on the prevalence of inheritances.

11 See Grawe (2001) for a clear exposition.

12 Fortin and Lefebvre (1998, p. 58) hypothesize that access to post-secondary education may be at work, but also caution that the differences may be due to limitations of their data that required them to compare the adult outcomes of these two generations at different ages.

13 A stronger case, however, seems to be made for the relationship between socio-economic status early in life and longevity. Several of the chapters in Keating and Hertzman (1999) also illustrate gradients for a number of shorter-term outcomes: cognitive and social development in the preschool years, literacy and numeracy in the primary years, and physical aggression in the early teens. Some work using UK data does explicitly model the hypothesis being put forward, that initial conditions can have long-lasting influences and that the paths one takes through life matter and can be set upon very early. See Gregg and Machin (2000).

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Economic Growth and Environmental Degradation in Canada

Kathleen Day and R. Quentin Grafton

> *The stationary state of capital and wealth... would be, on the whole, a very considerable improvement on our present condition.*
> *John Stuart Mill (1994)*

INTRODUCTION

In the past generation Canada's population has increased by a third while its economy, as measured by its Gross Domestic Product (GDP),[1] has doubled. This growth has imposed stresses on our environment in terms of habitat loss, degradation and depletion of natural resources, and increased emissions of some important pollutants. In addition, Canada now faces serious consequences of global environmental challenges.[2] Despite these negative impacts, improvements have been made in terms of energy conservation, the water quality of the Great Lakes region and some aspects of air quality in urban areas.[3]

The key question for the next 25 years is what will be the effect of growth, and in particular economic growth, on Canada's environment? At one extreme are those who suggest that Canada has already reached its carrying capacity and that without a radical change in our consumption, production processes and waste disposal we will face major environmental losses. In this view, increases in GDP that arise from converting energy and natural resources into capital and consumption goods reduce environmental quality. In the most pessimistic outlook, deterioration of the environment, and its ability to provide inputs and assimilate wastes, will eventually lead to reductions in GDP. Before this point arises, however, broad-based measures of welfare will already be in decline.[4]

In a contrary view, called "weak sustainability," natural capital and human-made capital are substitutes in the production of environmental quality such that economic growth may be accompanied by reductions in environmental degradation.[5] In the most optimistic scenario, known as the Porter hypothesis, measures to reduce the environmental impacts of consumption and production stimulate total factor productivity, producing benefits for economic growth and the environment simultaneously (Porter and van der Linde 1995). If reducing environmental impacts imposes an opportunity cost on the economy, growth in GDP may still be compatible with an improvement in environmental quality, provided that increases in total factor productivity more than offset the economic costs of abating or mitigating environmental impacts.

By examining the environmental trends over the past few decades, and the relationship between environmental indicators and economic growth, we can better judge what the future may hold. Using environmental indicators, this paper provides an empirical analysis of economic growth and the environment from a Canadian perspective. The following section of the paper reviews the broad relationships between the environment and human activity. The third section focuses on the literature on economic growth and the environment. The fourth section reviews environmental trends in Canada and analyses their relationship to economic growth. The fifth section discusses the results and their insights. The final section provides conclusions about the study and its implications for the future.

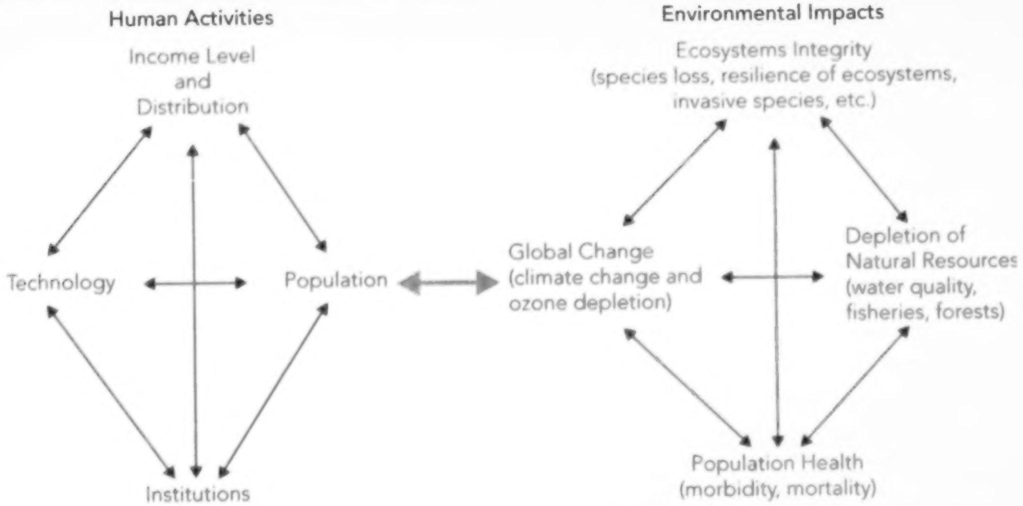
HUMAN ACTIVITIES AND ENVIRONMENTAL IMPACTS

The environment is a collective term for the ecosystems that we use and benefit from on a local, national and global scale. It includes non-renewable resources, such as minerals and energy deposits, that decline with extraction; renewable resources, such as fisheries, forests, soil and water, that can be degraded with use; and ecosystems that are affected by species loss, habitat destruction, the spread of invasive species, climate change and many other factors.

Human activities affect each component of the environment, but in different ways that change over time. For example, in 1900 Canada was highly dependent on coal as an input into production processes. As the economy developed, many industries switched to other energy sources, such as oil and natural gas, and coal's relative importance has declined. This fuel switching has substantially reduced the accumulation of particulate matter in the air, especially in urban centres, that would have occurred in the absence of substitution to cleaner-burning energy sources. By contrast, the widespread and increasing use of automobiles in major urban centres has led to very large increases in various other types of pollutants, such as carbon dioxide.

The main drivers of human activities are the size of the population, the level of income or output in the economy and its distribution, the institutions that determine the interactions and decisions of individuals and communities, and the state of technology. Combined, these factors determine environmental impacts due to human activities. These environmental effects can be observed in terms of population health, depletion of natural resources, ecosystem integrity and global change and are illustrated in Figure 1. The diagram shows the links between human activities and environmental impacts and indicates that these effects are unlikely to be uniform across the different components of the environment. For example, in recent years the area of land in provincial and national parks has increased significantly, but, contemporaneous with these changes, emissions of greenhouse gases have risen steeply.

FIGURE 1
Human Activities and Environmental Impacts


Human Activities
Income Level and Distribution
Technology
Population
Institutions
Environmental Impacts
Ecosystems Integrity (species loss, resilience of ecosystems, invasive species, etc.)
Global Change (climate change and ozone depletion)
Depletion of Natural Resources (water quality, fisheries, forests)
Population Health (morbidity, mortality)

Several authors have examined human activity-environmental impact from an aggregate or macro perspective. To help present the drivers of the system, an identity given by equation (1) is useful:[6]

$$ED = P \bullet Y \bullet I \quad (1)$$

where ED is gross or aggregate environmental degradation, P is total population, Y is real output or income per capita and I is an aggregate environmental impact coefficient per unit of aggregate economic activity. Overall environmental impact can be affected by changes in population, per capita income and the environmental impact coefficient.

Given current projections for the Canadian population[7] and an average growth rate in real GDP of 2 percent/year, the identity in equation (1) implies that the environmental impact coefficient will need to decline by some 22 percent if the current impact of human activities on the environment in Canada is not to increase in the next 25 years.[8] In other words, if the annual aggregate human impact on Canada's natural capital is not to worsen in the next generation, the environmental impact per dollar of economic activity must decline at a rate of a little less than 1 percent/year for the next 25 years. If the current impact on our environment is not sustainable, then even larger declines in the aggregate environmental impact coefficient will be required.

Reductions in the overall environmental impact coefficient will occur only if changes occur in individual sectors of the economy. These changes can be summarized by changes in inputs (such as switching fuel from coal to natural gas), composition of outputs (such as switching from producing chemicals to producing software) and the production process (such as developing less-polluting technologies).[9] All three types of changes will be required if projected economic growth is not to impose further burdens on the Canadian environment.

ECONOMIC GROWTH AND THE ENVIRONMENT

Ideally, a model that relates economic growth to the environment will account for the feedbacks inherent in such a system. For example, production that leads to greenhouse gas emissions may, with lags, affect output if greenhouse gas emissions contribute to climate change. Similarly, pollution produced today can have both immediate and lagged effects in terms of population health. These linkages can be fully examined only within a general equilibrium model that explicitly measures environmental quality and accounts for environmental policy.

Unfortunately, the data required to build a structural model of the economy and environment that is capable of providing a range of environmental indicators do not exist. Consequently, researchers have resorted to estimating reduced form models that relate indicators of environmental quality to economic performance, measured in terms of per capita income. In this approach, an environmental quality indicator (such as sulphur dioxide emissions) is treated as a dependent variable and regressed on a range of variables, particularly per capita income. Most of these reduced form studies have been undertaken using cross-sectional data from several countries for a range of pollutants, and often for multiple time periods. These regressions do not purport to explain the economic growth-environmental quality relationship but, instead, measure the nature of the relationship. For example, if environmental degradation decreases while per capita income rises in a reduced form model, this result provides no guidance as to why this relationship occurs.

The reduced form models that measure the economy-environment relationship have sometimes generated Environmental Kuznets Curves (EKCs), so called because the estimated relationships can resemble the inverted U, made famous by Kuznets, that suggests that inequality rises with increasing income and then eventually declines.[10] Similarly, some reduced form models suggest that environmental degradation initially increases with rises in per capita income but reaches a turning point and then declines, as illustrated in Figure 2. Various explanations have been offered as to why this relationship might exist: the income elasticity of demand for environmental quality may exceed one, so that as incomes rise, citizens support initiatives to reduce environmental degradation; rising incomes may be associated with shifts in the economy from resource-intensive to research-intensive outputs; and rising income, coupled with improvements in human capital and technology, may help "decouple" economic growth and pollution.

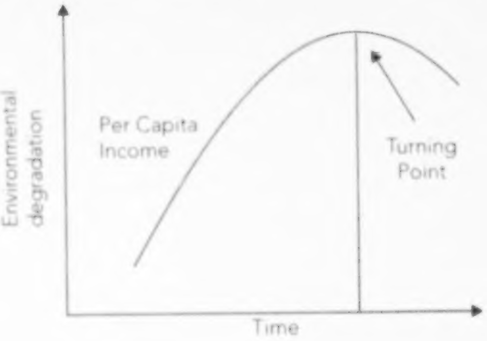
To obtain an EKC from a reduced form model, a quadratic term in per capita income must also appear in the model. Many authors have also included a cubic term in per capita income, a variable to account for the existence of a deterministic trend, exogenous variables and intercepts to account for individual country or regional fixed effects. A typical reduced form model is given by equation (2):

$$\begin{aligned} ED_{it} = \alpha_1 + \alpha^{2} Y_{it} + \alpha^{3} Y_{2it} + \alpha_4 Y_{3it} \\ + \alpha_5 t + \alpha_6 X_{it} + e_{it} \quad (2) \end{aligned}$$

where ED_{it} is a measure of environmental degradation in country i at time t, Y_{it} is per capita income of country i at time t, t is a linear time trend, X_{it} represents exogenous variables that may affect environmental quality in country i at time t, and e_{it} is an error term assumed to be independently and normally distributed. The EKC, or inverted U relationship, arises if $\alpha_2 > 0$, $\alpha_3 < 0$, and $\alpha_4 = 0$, but several other potential relationships may exist.[11] For example, environmental degradation may be monotonically increasing ($\alpha_2 > 0$, $\alpha_3 = \alpha_4 = 0$) or decreasing ($\alpha_2 < 0$, $\alpha_3 = \alpha_4 = 0$) with per capita income, or it may be a U shape ($\alpha_2 < 0$, $\alpha_3 > 0$ and $\alpha_4 = 0$). More complicated yet, two turning points may exist such that environmental degradation at first rises (falls) with income and then falls (rises) and then rises (falls) again such that $\alpha_2 > 0$, $\alpha_3 < 0$ and $\alpha_4 > 0$ ($\alpha_2 < 0$, $\alpha_3 > 0$ and $\alpha_4 < 0$).[12]

Several reviews of reduced form models of the environment and income have been carried out. Stern, Common and Barbier (1996) compare five different studies and discuss the weaknesses of the reduced form approach, including its inability to lead to informed policy, while Day and Grafton (2001) provide econometric critiques of the reduced form approach. Ekins (1997) finds scant evidence for an EKC or inverted U relationship, and de Bruyn (2000),[13] in a review of 23 reduced form regressions, finds that only 12 of the studies estimated an inverted U-shaped curve. Overall, the strongest support for an EKC curve is that for some air pollutants such as sulphur dioxide, nitrogen oxide, nitrogen dioxide and carbon monoxide, but there is little evidence for an EKC for common measures of water pollution or land-use changes. One possible explanation for this result is that air emissions may be better regulated and controlled than other forms of environmental degradation, such as land-use changes, or that some pollutants (such as sulphur dioxide) are more amenable to technical control (through the use of scrubbers) than other emissions, such as carbon dioxide, where input substitution or mitigation is much more expensive.[14]

FIGURE 2
Environmental Kuznets Curve



A broad-based EKC also contradicts other evidence based on several measures of environmental quality. For instance, MacGillivray (1993) used an index of 11 environmental indicators for 21 countries and found little evidence of a relationship between income and an index of environmental degradation.[15] Moreover, there is considerable evidence of increased environmental degradation in a number of critical areas, such as species and habitat loss and depletion of natural resources, even in the wealthiest of countries such as Canada (Devlin and Grafton 1999). Indeed, for a broad-based set of EKCs to exist there must be a tendency to reduce energy use, material use and waste, or all three components, as throughputs in an economy. Finally, even if an EKC exists for an individual country, it does not imply that such a relationship exists universally, because reductions in environmental degradation in rich countries may arise from the migration of "dirty" or heavily polluting industries to poorer countries with less strict regulations.

THE CANADIAN EXPERIENCE

Canada's environmental record has been the subject of several reviews. A 1995 report by the Organization for Economic Co-operation and Development provides a snapshot of Canadian environmental performance in terms of ecosystems, water, waste, air and public policy (OECD 1995). Using data from Environment Canada, Hayward and Jones (1998) and Devlin and Grafton (1999) provide overviews or syntheses of environmental trends over the past two decades. Hayward and Jones used 20 separate measures of environmental degradation in the categories of air quality, water quality, natural resources and solid waste and conclude that overall environmental quality improved between 1980 and 1995. Devlin and Grafton conclude that in a number of significant areas, particularly air quality, Canada has improved its environmental quality but important challenges remain. Devlin and Grafton observe that the successes that have been attained are due to effective policies at both the federal and provincial level. For instance, the 1988 Canadian Environmental Protection Act (revised in 1999 and proclaimed in 2000) has played an important role in improving waste disposal, and the 1998 Environmental Harmonization Accord set national standards for important air and water pollutants.

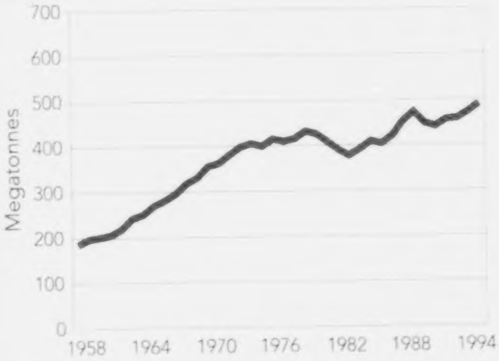
The latest review of Canada's environment is provided by Statistics Canada and includes discussions and data on the driving forces of environmental impact, the state of natural resources, measures of ecosystem health and policies (Statistics Canada 2000). The data from Statistics Canada, supplemented with data from Environment Canada's National Environmental Indicator Series, provide the most comprehensive set of measures of environmental degradation in Canada. Despite this wealth of data, most of the series on environmental indicators are available only for relatively short periods of time and thus are of limited value in terms of time-series analysis or for evaluating environmental progress in the medium to long run. Further, almost all the variables available over longer periods relate to emissions or concentrations of air pollutants and thus provide only a partial perspective on the environmental impacts of economic growth.

Reduced Form Models

In the Canadian case, the relationship of 10 measures of environmental degradation to income per capita, as measured by real GDP per capita, can be explored. The approach consists of estimating reduced form models of the relationship between environmental degradation and per capita income, and then evaluating the models using various econometric tests. The measures of environmental degradation examined in the analysis include carbon dioxide emissions (CO_2); concentrations of carbon monoxide (CO), nitrogen dioxide (NO_2), ground-level ozone (O_3), sulphur dioxide (SO_2) and total suspended particulate matter (TSP);[16] concentrations of dioxin (2,3,7,8) in herring gull eggs in the St. Lawrence River; concentrations of fecal coliform in the Saskatchewan River; and concentrations of dissolved oxygen in the Saskatchewan and Saint John Rivers.

The data on carbon dioxide are presented in Chart 1. All other air pollutants, given as averages for Canada as a whole, are graphed in Chart 2. Concentrations of dis-

CHART 1
Carbon Dioxide Emissions, 1958-1995



Source: Environment Canada.

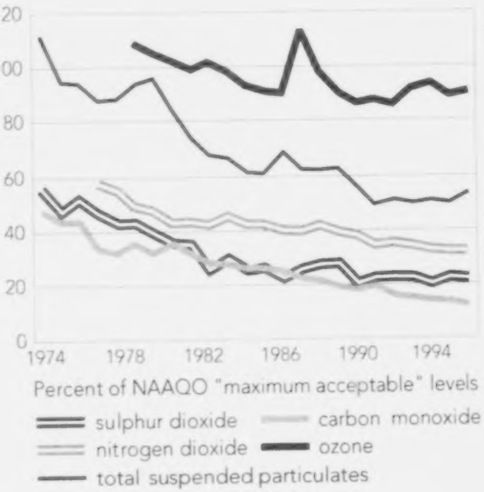
solved oxygen, fecal coliform and concentrations of dioxin, given in Charts 3, 4 and 5, apply to more restricted geographical areas. Data on real GDP per capita for Canada as a whole were obtained from CANSIM and are graphed in Chart 6.[17] The data used in the analysis, with the exception of concentrations of CO, NO_2, O_3, SO_2 and TSP, are presented in Table A1.[18]

These measures of environmental degradation represent only a very limited set of possible environmental indicators.[19] The chosen measures of air pollution are standard indicators of air quality in urban areas and are widely used measures of environmental degradation. Fecal coliform and dissolved oxygen levels are commonly used indicators of water quality and, especially, organic water pollution. Dioxins can persist for a long time in the environment and are formed in the production of organochlorine compounds and in the manufacture of chlorine-bleached wood pulp. Measures of dioxins in eggs provide an indicator of the level of bioaccumulation of persistent organic pollutants in the environment.

Two versions of the basic reduced form model given by equation (2) were estimated, but neither included any exogenous variables (X_{it}) other than income. The first version estimated the relationship with all variables in levels and the second version estimated the model with the income measures and the measure of environmental degradation in natural logarithms.[20]

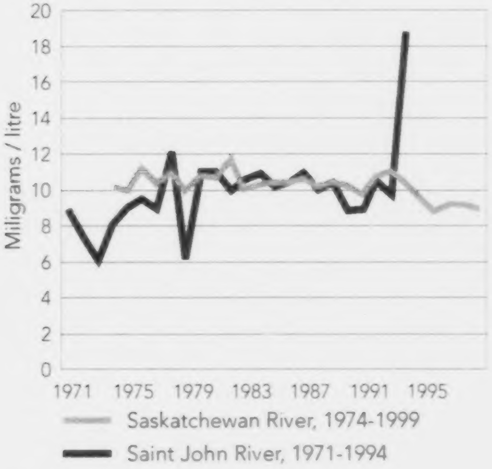
The sample sizes range from a high of 38 observations for carbon dioxide emissions to a low of 19 for concentrations of ground-level ozone. For six of the 10 pollutants — CO, CO_2, NO_2, SO_2, TSP and dioxin in herring gull eggs — the adjusted R^2 exceeds 0.9 for the equations in both levels and logs, implying that the reduced form model explains much of the variation in the measure of environmental degradation. F-tests of the overall significance of the regression led to a rejection of the null hypothesis that the model had no explana-

CHART 2
Annual Average Concentrations of Air Pollutants, 1974-1997



Source: Statistics Canada (2000), Table 6.2.1.

CHART 3
Concentration of Disolved Oxygen



Source: Environment Canada.

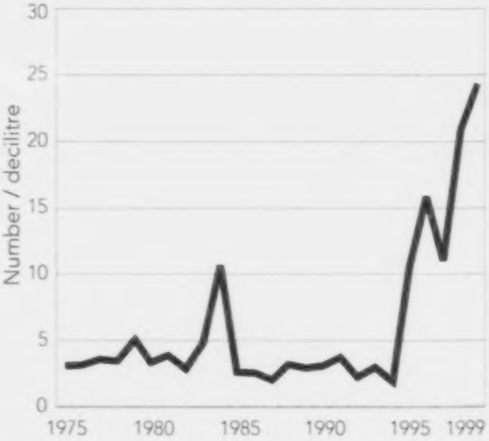
tory power for all specifications of the model except for dissolved oxygen in the Saint John River. Despite the fact that the reduced form model appears to have some explanatory power for nine of the 10 measures of environmental degradation, for most of the coefficients statistical tests do not allow us to reject the hypothesis that the coefficient is zero.

Evidence for an Environmental Kuznets Curve

As noted in the third section of the paper, an EKC exists if $\alpha_2 > 0$, $\alpha_3 < 0$ and $\alpha_4 = 0$. If we restrict our attention to those equations where the estimates of at least one of the coefficients α_2 and α_3 are statistically significant — the equations in levels for CO_2, NO_2, dioxin and fecal coliform and the equations in logs for CO, NO_2, SO_2, dioxin and fecal coliform — the evidence in favour of an EKC is not strong.[21] Only the equations for CO_2 and fecal coliform in levels and SO_2 and fecal coliform in logs display the correct pattern of signs for α_2 and α_3, and in all of those equations the estimate of α_4 is also positive and significantly different from zero at the 5-percent level of significance. These results imply that for CO_2 in levels, SO_2 in logs, and fecal coliform in levels and logs over some range of per capita income environmental degradation will decline as income rises, but eventually another turning point will be reached and, thereafter, environmental degradation will increase as per capita income rises.

If all equations, for all measures of environmental degradation, are considered, only two different patterns of signs for the coefficients α_2, α_3 and α_4 emerge. Either $\alpha_2 > 0$, $\alpha_3 < 0$ and $\alpha_4 > 0$, which implies that environmental degradation will increase with income after the second turning point of the cubic function in income per capita has been surpassed, or $\alpha_2 < 0$, $\alpha_3 > 0$ and $\alpha_4 < 0$, which implies that environmental degrada-

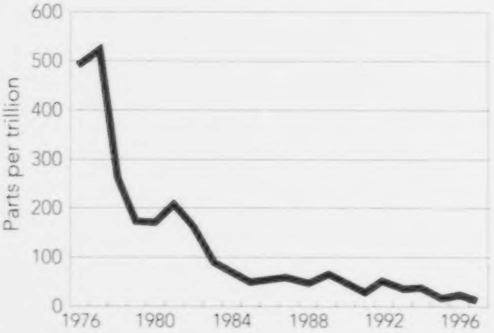
CHART 4
Fecal Coliform in Saskatchewan River, 1975-1999



Source: Environment Canada.

CHART 5

Average Concentration of Dioxin (2, 5, 7, 8) in Herring Gull Eggs along the St. Lawrence River, 1976-1997



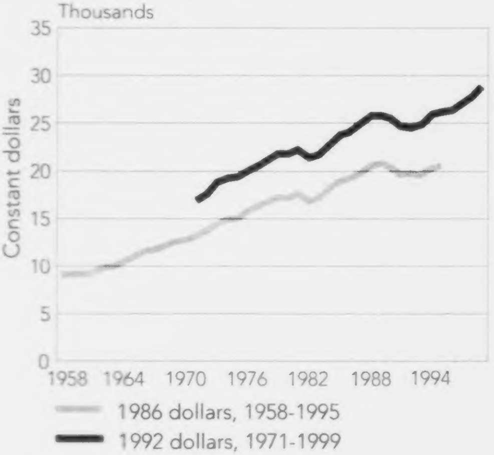
Source: Constructed by authors using data from Environment Canada.

tion will first decrease as income per capita rises, then increase and finally decrease with income per capita again after the second turning point has been surpassed. This latter pattern of signs, although not consistent with the EKC hypothesis, does imply a more desirable long-run relationship between environmental degradation and economic growth. This more desirable pattern of signs is evident in the reduced form estimates in both levels and logs for CO, NO_2, O_3, dissolved oxygen in the Saskatchewan River and dioxin in herring gull eggs in the St. Lawrence River, and in only the level version of the model for dissolved oxygen in the Saint John River.[22]

In order to see how close, or how far, Canada currently is from the turning points implied by the reduced form estimates, the implied level of real GDP per capita at each turning point was computed for each set of estimates.[23] The results of this calculation are presented in Table 1. It is interesting to note that in most cases (the exception being dissolved oxygen in the Saskatchewan River) the predicted turning points are similar for the level and log versions of the model. In four cases — CO_2 in levels, and TSP, dioxin and dissolved oxygen in the Saint John River — the turning points proved to be undefined. In those cases where the turning points were defined, the first turning point has long since been passed in Canada. The second turning point has also been passed in all cases except that of dissolved oxygen in the Saskatchewan River. The pattern of signs in this case implies that Canada is currently in a region where the level of dissolved oxygen is decreasing as per capita income increases, but in the future Canada should expect a reversal of this trend. The parameter estimates also imply that Canada has already reached the level of per capita income where environmental degradation will increase with income per capita in the cases of CO_2, SO_2, TSP and fecal coliform in the Saskatchewan River.

CHART 6

Real GDP Per Capita, Canada, 1958-1999



Source: Constructed by authors using data from Environment Canada.

TABLE 1

Estimated Levels of Real GDP Per Capita at Turning Points of Reduced Form Models (1992 dollars)

Equations in Levels[1] Measure of Environmental Quality	First	Year Surpassed	Second	Year Surpassed[2]	Does environmental degradation eventually decrease with income?
CO	23,552	1985	25,166	1988,1994	yes
CO_2	N/A	N/A	N/A	N/A	no
NO_2	22,463	1984	26,606	1997	yes
O_3	22,662	1984	28,308	1999	yes
SO_2	13,266	prior to 1971	23,711	1986	no
TSP	18,636	1974	22,443	1984	no
Dioxin in herring gull eggs	23,510	1985	26,296	1996	yes
Fecal coliform, Saskatchewan River	19,974	1976	24,936	1988, 1994	no
Dissolved oxygen,					
Saskatchewan River[3]	22,216	1984	34,920		yes
Saint John River[3]	18,604	1973	24,716	1987, 1993	yes
Equations in Logs[4]					
CO	20,239	1977	24,321	1987	yes
CO_2	19,133	1975	20,761	1978	no
NO_2	22,355	1984	26,251	1996	yes
O_3	22,472	1984	30,905		yes
SO_2	19,784	1976	23,157	1985	no
TSP	N/A	N/A	N/A	N/A	no
Dioxin in herring gull eggs	N/A	N/A	N/A	N/A	yes
Fecal coliform, Saskatchewan River	20,172	1977	25,176	1988, 1994	no
Dissolved oxygen,					
Saskatchewan River[3]	22,425	1984	186,354		yes
Saint John River[3]	N/A	N/A	N/A	N/A	no

[1] Based on parameter estimates in Tables 4.1 and 4.2 of Day and Grafton (2001).

[2] Empty cells in the table indicate that the level of real per capita income has not yet been achieved.

[3] An increase in dissolved oxygen is associated with an improvement in environmental quality or a reduction in environmental degradation.

[4] Based on parameter estimates in Tables 4.3 and 4.4 of Day and Grafton (2001).

If the reduced form estimates are to be taken at face value, they provide little support for the existence of EKCs in Canada, at least for the 10 measures of environmental degradation used in this study. Strong correlations, however, between the income terms make it difficult to conclusively distinguish between a quadratic and a cubic relationship in many cases. It would appear that the reduced form models might represent the nature of the process through which environmental degradation occurs rather than, say, an increase in the demand for increased environmental quality as income per capita rises. Overall, the results indicate that for the 10 measures of environmental degradation used in the study, there is little evidence to suggest there has been a decoupling of growth and environmental degradation.

EXPLAINING THE ECONOMIC GROWTH-ENVIRONMENT RELATIONSHIP

The results suggest that the interrelationships between economic growth and the environment cannot, in general, be determined by reduced form models.[24] Unfortunately, data limitations often prevent the building of detailed structural models of the environment and the economy.

As an alternative, a sectoral approach is proposed, which picks "key" environmental indicators and, where data are available, directly relates them to specific human activities. For example, in Canada sulphur dioxide emissions come from several key sources including power plants, smelting and vehicle emissions. To understand the relationship between sulphur dioxide emissions and economic activity, emissions from the major sources need to be tracked and the changes explained.[25] For example, sulphur dioxide emissions may decline due to fuel switching (from high- to low-sulphur coal), increased energy efficiency (less fuel used per unit of output produced) or the use of emissions-control devices. Changes in these factors, in turn, need to be explained by shifts in regulations or other factors. A sectoral analysis for a range of environmental indicators, such as carbon monoxide, total suspended particulate matter and dissolved oxygen, would provide a wealth of information about the underlying relationship between environmental degradation and human activity.

A sectoral analysis would help explain the over 50-percent decline in sulphur dioxide emissions in Canada between 1970 and 1995, with concomitant reductions in sulphur dioxide concentrations. For instance, the 1985 Acid Control Program and the ensuing regulations led to a 40-percent reduction in sulphur dioxide emissions for all provinces except British Columbia, Alberta and Saskatchewan between 1980 and 1993 (OECD 1995). Recent regulations introduced under the 1999 Canadian Environmental Protection Act will, by 2005, result in a reduction of over 90 percent in the sulphur content of gasoline used in Canada (Statistics Canada 2000). Similarly, public concerns over dioxins resulted in much stricter emissions controls on pulp and paper mills beginning in the 1990s, and ultimately led to large investments in wastewater treatment facilities to reduce discharges. Similar sectoral analyses for other pollutants, and by economic activity, would enable policy-makers to ascertain the effects of regulations, technological progress and other factors on emissions. This approach would be extremely useful in understanding what factors cause changes in environmental degradation over time. Such analysis, and indeed any meaningful environmental study, requires reliable data collected on a regular and on-going basis for a variety of measures of environmental quality in the air, water and land.

A range of environmental indicators can also be developed to provide a sectoral analysis of environmental degradation and economic growth. A report by the OECD proposed a set of indicators for its member countries and criteria for evaluating indicators that include their policy relevance, analytical soundness and measurability (OECD 1999). The US National Research Council has proposed a different set of criteria and ecological indicators for use in the United States that measure land-use change (land-use cover by ecological status), the state of the ecological capital (total species diversity, native species diversity) and ecosystem functioning (net primary productivity, soil organic matter, stream oxygen, lake trophic status, land-use and nutrient-use efficiency) (National Research Council 2000). Both approaches try to link the proposed environmental indicators to direct human activity. For example, indicators of dissolved oxygen can be telemetered, continuously measured and directly related to upstream discharges. Such an approach, unlike a reduced form model, helps explain the underlying relationship between the economy and environmental degradation. Such analysis naturally feeds back into improved policies and actions to address environmental challenges.

CONCLUDING REMARKS

Canada faces a number of important challenges in terms of its environment. These include climate and atmospheric change, species loss, degradation of ecosystems and depletion of renewable natural resources. To a great extent, these challenges are driven by human activity in terms of consumption patterns, production processes and waste disposal.

A common method for analysing the environment-economic growth relationship is to estimate a reduced form model that regresses a measure of environmental degradation against per capita income over time and across countries. Some of the researchers who have used this approach have found evidence for a so-called EKC where environmental degradation supposedly increases with per capita income, reaches a turning point and then declines. Some authors have used such results to suggest that economic growth is a sine qua non to reduce environmental degradation and that increasing incomes provide the stimulus for improvements in environmental quality.

The results in this paper, derived from Canadian data on 10 measures of environmental degradation, indicate that reduced form models do not provide an adequate representation of the growth-environment relationship. Moreover, there is little evidence to suggest that increases in real per capita income will themselves reduce environmental degradation.

To adequately assess the environment-economic growth relationship, a sectoral analysis is recommended. This approach requires the collection of various measures of environmental indicators and, for each measure, an analysis of the factors affecting the major sources that help determine the level of the indicator. Although this approach has its own limitations due to the long-range transportation of pollution and transboundary pollutants, it will help to explain the effects of economic and social progress on the environment. Further research, including the development of sectoral studies and the enlargement of Canada's environmental data base and indicators, is required if Canada is to understand the environment-growth relationship and to address its ongoing environmental challenges.

NOTES

The authors are grateful for the research assistance of Markes Cormier and the valuable comments of Andrew Sharpe and Robert Smith on an earlier draft. We acknowledge the assistance of Environment Canada in supplying some of the data used in the study.

1 GDP is a frequently used measure of economic activity and represents the total income (wages, profits and rents) produced in a country in a 12-month period. It also is equal to total consumption, investment and government expenditures less the value of imports plus the value of exports. Thus GDP is not a true measure of economic growth because it does not account for declines in natural capital and the environment or measure non-monetary production in an economy.

2 A description of the environmental challenges of the 20th century is provided by McNeill (2000). A review of the causes and effects of anthropogenic environmental degradation, from the earliest times, is given by Ponting (1991).

3 An excellent summary of the state of Canada's environment is given in Statistics Canada (2000).

4 Various measures of economic welfare have been developed. A very useful summary of these indexes, and how they are applied in the Canadian context, is provided by Sharpe (2000).

5 For further details on the nature of strong and weak sustainability, consult Neumayer (1999).

6 The identity appears in this form in Holdren and Ehrlich (1974), 288. The first reference to such an identity is in Ehrlich and Holdren (1971). Such an identity is also described in Daly (1973).

7 Population projections are derived from Table 4.1.16 in Statistics Canada (2000).

8 The projection for Canada is calculated by using the population projection discussed in supra note 7 and assuming a 2-percent increase/year in GDP for the 25 years. The calculated decline in I is the amount by which I must fall to ensure that gross environmental degradation remains unchanged over the next 25 years.

9 For further details see Lecomber (1975).

10 Such nomenclature is unfortunate as both the theoretical and empirical observation of an inverted U, in terms of income inequality and income, is in dispute: Anand and Kanbur (1993). For further details see Kuznets (1955).

11 It also requires that $\alpha3 < \alpha2$.

12 Such a relationship also requires that $\alpha4 < \alpha3 < \alpha2$.

13 Table 5.1 in de Bruyn (2000). The table includes regressions from seven different studies that examine four different measures of air pollution/quality (sulphur dioxide, particulate matter, nitrogen oxide, carbon dioxide), two measures of water quality (fecal coliform, dissolved oxygen) and one measure of land-use change (deforestation).

14 We are grateful to Robert Smith for suggesting possible reasons for differences in EKC relationships for different pollutants.

15 The indicators include carbon dioxide emissions per capita, oxides of nitrogen per capita, oxides of sulphur per capita, water abstractions per capita, wastewater treatment as percentage of population served, major protected areas as percentage of land area, threatened mammal and bird species as percentage of total number of mammals and birds, municipal solid waste per capita, energy supply per unit of GDP, passenger kilometres in private road vehicles per capita, and nitrate fertilizers per square kilometre of arable and permanent cropland. In this study, Canada was the worst performer, except for the United States, out of 21 countries.

16 The concentrations of these five air pollutants are actually measured as percentages of the National Ambient Air Quality Objectives (NAAQO) "maximum acceptable" concentration. A table

summarizing the NAAQO can be found at http://www.ec.gc.ca/Ind/English/Urb_Air/Tech_Sup/uasup5_e.cfm

17 See Table A1 for detailed information regarding data sources. Because the data on dioxin concentrations, dissolved oxygen and fecal coliform are for specific geographical areas, it might have been better to use provincial GDP per capita for the relevant provinces in our analysis, rather than national GDP per capita. However, Statistics Canada does not produce consistent time series on real provincial GDP that go back beyond 1981.

18 The remaining data are provided in Table 6.2.1 in Statistics Canada (2000), 126.

19 A good discussion of how to use and apply the environmental performance indicators employed is provided by Segnestam (1999).

20 Ordinary Least Squares (OLS) estimates of the coefficients of equation (2), in levels and logs, are provided in Day and Grafton (2001), together with a number of diagnostic statistics.

21 "Statistically significant" means that a statistical test led to the rejection of the null hypothesis that the true value of the coefficient is zero. See Day and Grafton (2001) for a thorough discussion of the statistical tests undertaken.

22 By contrast to the other environmental measures, increases in dissolved oxygen are associated with decreases in environmental degradation.

23 The turning points are the levels of real per capita GDP such that the first derivative with respect to Y or log of Y is zero. Because equation (2) is a cubic polynomial, its first derivative is a quadratic equation.

24 Day and Grafton (2001) use time series models to assess the growth-environment relationship.

25 Ekins (2000) provides one of the very few sectoral analyses of the environment-economy relationship. Using this approach, he explains changes in sulphur dioxide emissions in the United Kingdom from 1970 onwards.

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TABLE A1

Data Used in Empirical Analysis

Year	CO_2 Emissions[1] (mega-tonnes)	Concentration of Dioxin (2,3,7,8) in Herring Gull Eggs, St. Lawrence River[2] (parts / trillion)	Concentration of Dissolved Oxygen, Saskatchewan River[3] (milligrams / litre)	Concentration of Fecal Coliform, Saskatchewan River (number / decilitre)	Concentration of Dissolved Oxygen, Saint John River[4] (milligrams / litre)	GDP Per Capita, Canada, 1986 Dollars[5] (D14606)	GDP, Canada, Millions of 1992 Dollars (D22467)	Population, Canada (C892268)	GDP Per Capita, Canada, 1992 Dollars (calculated by authors)
1958	185					8,984			
1959	197					9,122			
1960	200					9,184			
1961	205					9,281			
1962	219					9,754			
1963	242					10,072			
1964	250					10,543			
1965	269					11,037			
1966	280					11,567			
1967	295					11,694			
1968	317					12,128			
1969	330					12,595			
1970	355					12,742			
1971	362				8.88	13,030	370,859	21,962,082	16,886
1972	380				7.34	13,617	390,702	22,219,560	17,584
1973	397				6.07	14,488	418,797	22,493,842	18,618
1974	405		10.10		8.13	14,917	436,151	22,808,446	19,122
1975	399		9.86	3.17	9.00	15,085	445,813	23,142,275	19,264
1976	414	489.00	11.22	3.13	9.55	15,804	470,291	23,449,793	20,055
1977	409	518.00	10.43	3.60	8.96	16,184	486,562	23,726,345	20,507
1978	414	261.00	11.00	3.50	12.10	16,756	506,413	23,963,967	21,132
1979	431	169.00	9.93	5.00	6.20	17,231	527,703	24,202,205	21,804
1980	425	170.00	10.78	3.30	11.01	17,263	535,007	24,516,278	21,823
1981	408	207.00	10.72	3.82	10.98	17,676	551,305	24,820,382	22,212
1982	390	166.50	11.69	3.00	10.00	16,902	535,113	25,117,424	21,304
1983	377	90.00	10.00	4.89	10.53	17,263	549,843	25,366,965	21,676
1984	391	70.33	10.25	10.55	10.91	18,176	581,038	25,607,555	22,690
1985	409	53.00	10.41	2.62	10.20	18,867	612,416	25,842,590	23,698
1986	403	53.75	10.36	2.62	10.32	19,297	628,575	26,100,587	24,083
1987	420	58.00	10.61	2.00	10.87	19,839	654,360	26,449,888	24,740

TABLE A1 (Continued)

Year	CO_2 Emissions[1] (mega-tonnes)	Concentration of Dioxin (2,3,7,8) in Herring Gull Eggs, St. Lawrence River[2] (parts / trillion)	Concentration of Dissolved Oxygen, Saskatchewan River[3] (milligrams / litre)	Concentration of Fecal Coliform, Saskatchewan River (number / decilitre)	Concentration of Dissolved Oxygen, Saint John River[4] (milligrams / litre)	GDP Per Capita, Canada, 1986 Dollars[5] (D14606)	GDP, Canada, Millions of 1992 Dollars (D22467)	Population, Canada (C892268)	GDP Per Capita, Canada, 1992 Dollars (calculated by authors)
1988	451	45.67	10.23	3.14	10.01	20,560	686,176	26,798,303	25,605
1989	470	63.00	10.39	3.00	10.38	20,691	703,577	27,286,239	25,785
1990	447	52.00	10.21	3.08	8.90	20,351	705,464	27,700,856	25,467
1991	440	29.25	9.75	3.70	8.92	19,739	692,247	28,030,864	24,696
1992	455	49.30	10.70	2.23	10.50	19,596	698,544	28,376,550	24,617
1993	457	36.89	11.03	3.00	9.70	19,755	714,583	28,703,142	24,896
1994	471	34.94	10.40	1.94	18.80	20,341	748,350	29,035,981	25,773
1995	489	14.75	9.42	10.33		20,565	769,082	29,353,854	26,200
1996		20.39	8.84	15.83			780,916	29,671,892	26,318
1997		9.39	9.25	11.00			815,013	29,987,214	27,179
1998			9.17	20.91			842,002	30,247,949	27,837
1999			8.91	24.29			880,254	30,493,433	28,867

[1] Data on CO_2 emissions were obtained from http://www.ec.gc.ca/Ind/English/Climate/Bulletin/ccind1_e.cfm. The data were last updated in 1998. The original source is the Environmental Protection Service, Environment Canada, Ottawa, Ontario.

[2] Data on dioxin in herring gull eggs were obtained from Bishop *et al.* (1992) for the years 1974–88; from Petit *et al.* (1994) for the years 1989–92; and from Pekarik *et al.* (1998) for the years 1993–97. The value for each year is the mean over each site along the St. Lawrence River at which measurements were taken in that year.

[3] Data on water quality in the Saskatchewan River were supplied by Bing Chu in Regina, from Environment Canada's Envirodat data base, on 24 October 2000.

[4] Data on water quality in the Saint John River were supplied by David Lockerbie of Environment Canada in Moncton on 25 October 2000, with the following disclaimer: "The data are provided 'as-is' and although normal quality control/quality assurance techniques were used during the course of data collection, the Department makes no warranty, either expressed or implied, including but not limited to warranties of fitness for a particular purpose. In no event will the Department be liable for any indirect, consequential or similar damages resulting from the use of the data."

[5] Data on Canadian GDP were obtained from CANSIM. Series D14606 (matrix 6845), real per capita GDP at market prices in constant 1986 dollars, was used with the data on CO_2 emissions. The last update before the data were retrieved was 25 June 1996. For use with the remaining measures of environmental degradation, real GDP was computed using series D22467 (matrix 8602), GDP at 1992 prices, expenditure-based; and C892268 (matrix 6367), population of Canada as of 1 July. The last update prior to the retrieval of the data was 6 June 2000 for the GDP data and 24 October 2000 for the population data.

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